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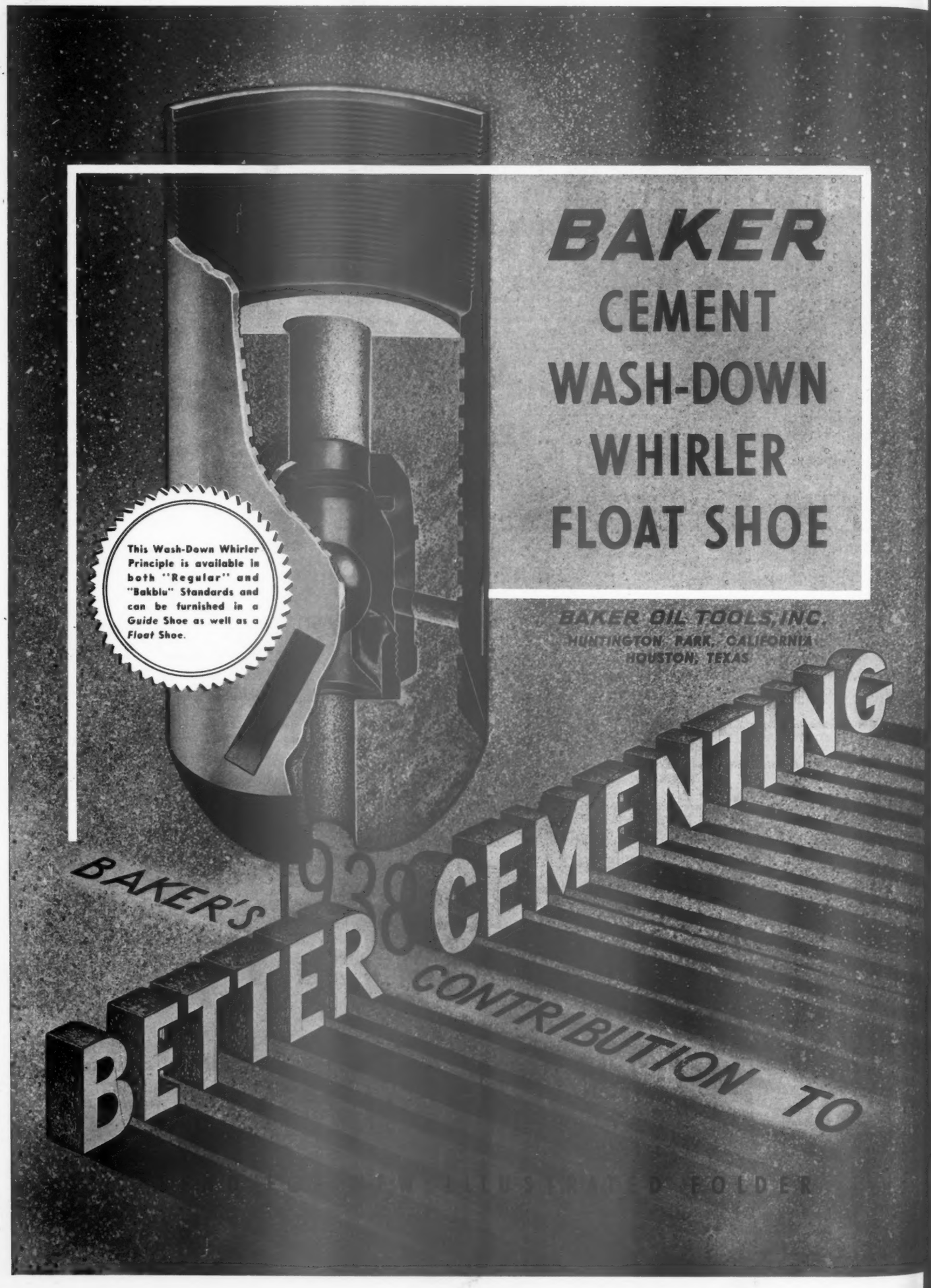
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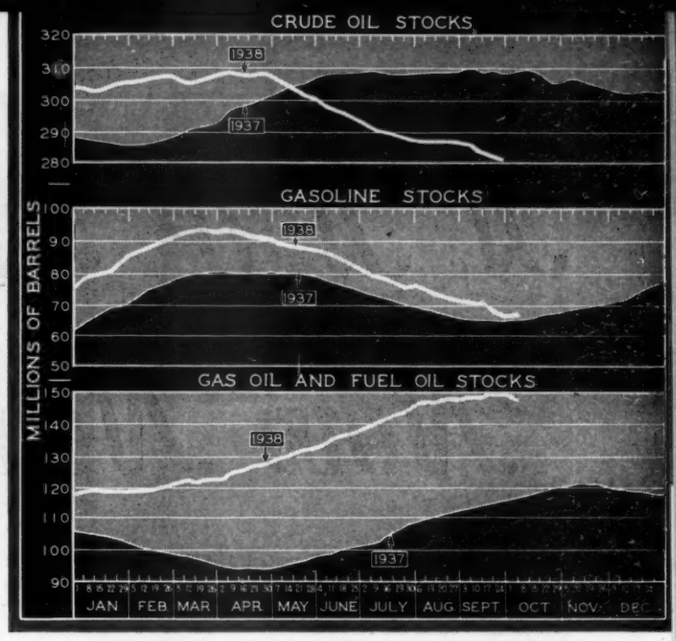
Trends

Local Reductions in Crude Prices Spread To Other Sections



A 17,000-barrel drop in production in California more than accounted for the total decrease in production in the United States in the past week. Crude purchasers in Michigan cut their posted prices from 6 to 9½ cents, led by buyers in the rapidly growing Allegan and Van Buren County fields in the southwestern part of the state, where a 7-cent reduction was made, resulting in an almost complete shutdown of flush wells in the new fields and causing a 3,751-barrel drop in the daily production of the state. A 5-cent reduction in the price of Lisbon, La., crude by the principal buyer was accompanied by the information that purchases would be increased about 60 per cent.

CRUDE PRODUCTION *3,237,960 barrels daily average—down 16,913. One year ago 3,645,476 barrels.*

CRUDE STOCKS *280,278,000 barrels as of September 24—down 667,000. One year ago 307,974,000 barrels.*

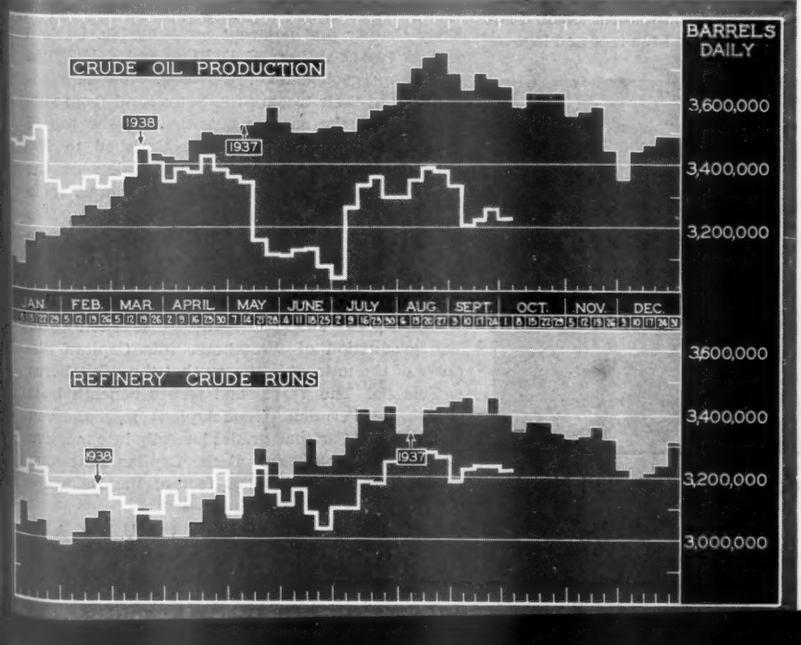
GASOLINE STOCKS *68,602,000 barrels as of October 1—down 3,000. One year ago 65,266,000 barrels.*

GAS AND FUEL OIL STOCKS *151,759,000 barrels as of October 1—up 1,291,000. One year ago 117,076,000 barrels.*

REFINERY RUNS *3,235,000 barrels daily week ending October 1—up 15,000. One year ago 3,400,000 barrels.*

Following the 12-cent cut in Pennsylvania Grade crude on September 1, and the 10-cent cut in East Texas at about the same time, no week has passed that has not brought with it a crude reduction in one or more scattered areas in the United States. A 35-cent cut was made in the price of heavy oil in southern Oklahoma. Ten cents was slashed from the price of Evangeline, or Jennings, crude in southern Louisiana. A small cut in price was given producers in the Tonkawa-Blackwell area in Oklahoma, and a 15-cent reduction was made in Smackover, Ark. Lisbon, La., producers suffered reductions, and the more than 85,000-barrel production of Illinois was given a 10-cent cut, which also affected the more than 16,000-barrel crude output of Eastern Kentucky and the 2,600-barrel production of Indiana. Michigan's production of more than 50,000 barrels per day was reduced in price. Altogether about 300,000 barrels of production has been affected by lowered prices in the past month, or more than 9 per cent of the production of the United States.

Reduced refinery revenue due to lower prices for refinery products has been the explanation invariably offered for these local reductions in crude prices. Comparative data are offered showing that in many refining areas plant revenue per barrel is 25 or more cents less than it was during peak period of 1937. About 4,000 barrels per day of Osage County, Oklahoma, crude will be thrown on the market on October 15 when the Barnsdall Refining Corp.'s plant at Barnsdall will be closed.



DAILY AVERAGE PRODUCTION FOR WEEK

	Oct. 1, 1938	Bur. Mines Oct. est.	Oct. state allowable	Sept. 24, 1938
Oklahoma City	95,175	.....	.....	92,125
Fitts	37,725	.....	.....	36,975
Remainder of state	321,150	.....	.....	319,175
Total Oklahoma	454,050	523,600	428,000	448,275
East Texas	369,000	.....	.....	369,000
West Texas	189,750	.....	.....	188,650
North Central Texas	99,850	.....	.....	99,449
Texas Panhandle	68,250	.....	.....	67,350
East Central Texas	89,150	.....	.....	89,400
Gulf Coast Texas	323,898	.....	.....	316,248
Southwest Texas	96,398	.....	.....	94,350
Total Texas	1,236,296	1,359,000	1,260,466	1,224,447
North Louisiana	73,690	.....	.....	75,890
Gulf Coast Louisiana	186,900	.....	.....	189,500
Total Louisiana	260,590	248,400	260,470	265,390
California	660,750	619,000	610,000	677,150
Kansas	159,375	163,400	163,400	161,125
Arkansas	57,750	54,100	.....	62,900
Illinois	88,086	51,900	.....	87,992
Michigan	50,063	53,900	.....	53,814
Eastern Fields	92,800	96,500	.....	94,000
New Mexico	105,990	109,200	106,000	106,000
Rocky Mountain area	72,210	87,800	.....	73,780
Total United States	3,237,960	3,366,800	.....	3,254,873

What promises to be an important discovery was made in the most northwesterly township in Garfield County, western Oklahoma, where a Wilcox sand producer was in the course of completion after having flowed 1,611 barrels in two days. This is the most westerly production in the northern half of Oklahoma and opens up a large area for exploration.

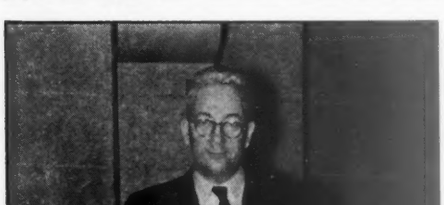
Production in the Pennsylvania Grade fields has fallen off because of the unprofitable price which producers recently received for crude. In the Bradford-Allegany district in northern Pennsylvania and southern New York output has been cut about 25 per cent.

A. A. P. G. Told Permian Now Nearly Five Billion

By D. H. STORMONT

EL PASO, Tex., Oct. 1.—The Permian basin has remaining reserves estimated at 4,705,000,000 bbls. after having already produced 1,395,000,000 bbls., the American Association of Petroleum Geologists was told at its mid-year meeting here this week.

This was brought out in the introductory paper read Thursday morning by Ed W. Owen, San Antonio, geologist of L. H. Wentz, which served to lay the groundwork for the detailed and specialized papers delivered later. Mr. Owen, citing American



Donald C. Barton, president, A.A.P.G.

Petroleum Institute and other sources, estimated the reserves of the basin as follows:

	Ultimate recovery	Already produced	Remaining reserves
West Texas	3,900,000,000	900,000,000	3,000,000,000
New Mexico	1,200,000,000	180,000,000	1,020,000,000
Panhandle	1,000,000,000	315,000,000	685,000,000
Total	6,100,000,000	1,395,000,000	4,705,000,000

Thus the Permian basin, with a reserve of almost 5,000,000,000 bbls., contained the second largest volume of known oil underground in any area in the world, he stated, being exceeded only by the Gulf Coast area of Texas and Louisiana.

Over 370 geologists attended the meeting. Papers of much value were read at the two-day technical session and the pre- and post-convention field trips gave added interest. The meeting was sponsored by the West Texas Geological Society, assisted by the South Texas and New Mexico geological societies and the El Paso chapter of the A.I.M.E.

Twenty-one papers were read at the technical sessions, all designed to give a thorough understanding of recent developments in the area. Those read in the morning session on Thursday served to give a cross section picture of the district. In the afternoon the papers were devoted to pre-Permian stratigraphy, including some Permian; and on Friday morning Permian stratigraphy, Trans-Pecos Texas and New Mexico, was discussed. In the closing session the papers were related to Permian stratigraphy east of the Pecos (including some pre-Permian), oil fields, and Tertiary volcanics.

The Thursday morning session was presided over by Berte R. Haigh of University Lands, Midland, Tex., general chairman. Opening talks were made by H. A. Hemphill of Magnolia Petroleum Co., Midland, president of the West Texas Geological Society, and Donald C. Barton, president of the A.A.P.G., Houston, Tex.

To assist in following the discussion of the detailed papers, an index map (reproduced here) and correlated charts were provided. This made it possible to keep outstanding geological features of the area well in mind at all times, and the charts permitted correlation of formations in various areas and eliminated the use of different names for the same geological subdivision.

Following Mr. Owen's paper, James Fitzgerald, Jr., Skelly Oil Co., Midland, presented two cross sections. The first, a south-north section from Pecos County through Ector County, Texas, to Roosevelt County, New Mexico, was prepared by W. C. Fritz, geologist of Skelly Oil Co., Midland, and carried generally along the eastern part of the Central Basin Platform. It traversed most of the Upper Castile basin of deposition and showed its northern limit. Through Crane, Ector and Andrews counties the section was along the strike of the beds of the Whitehorse formation. Here it showed the progressively increasing depth of the porous and producing zones from the Whitehorse formation. The suspected relationship of the Glorieta (base of San Andres) with the undifferentiated Permian of the southern part of the Central Basin Platform was also pointed out.

Second of the two cross sections discussed by Mr. Fitzgerald was from Pecos County through Winkler County, Texas, to Roosevelt County, New Mexico, and was prepared by E. Hazen Woods, geologist for Sinclair Prairie Oil Co., Midland. The generally accepted interpretation of reef production in the Whitehorse formation of Ward and Winkler counties, Texas, and southeastern Lea County, New Mexico, was shown in several wells along the western part of the Central Basin Platform. The section also showed the reef and lagoonal facies of the Whitehorse and attendant production. North of the Vacuum pool of Lea County, he pointed out, the transition is from predominantly dolomitic deposition to broken anhydrite, salt and sand facies of the Whitehorse and San Andres formations in Roosevelt County.

James Fitzgerald and E. Russell Lloyd

Ronald K. DeFord, chairman of technical program

Concluding paper of this session was read by R. I. Dickey, Stanolind Oil & Gas Co., Midland, and pertained to a geological section from Fisher County through Andrews County, Texas, to Eddy County, New Mexico. Continuity of the formations of the Whitehorse group from the east and west sides of the basin was shown. and in addition, the thickness of the formations and depths to producing strata.

Two papers arousing an unusual amount of discussion were read in the Friday morning session by R. K. DeFord of Argo Oil Corp., Midland, and E. Russell Lloyd, consulting geologist of Midland. The latter dealt with the theory of reef barriers, while Mr. DeFord discussed the surface and subsurface formations of Eddy County, New Mexico.

Incomplete surface and subsurface studies in Eddy County and adjacent areas by Mr. DeFord and the two co-authors, G. D. Riggs and N. H. Wills, consulting geologists of Carlsbad, New Mexico., resulted in their tracing the Yates sand from subsurface into the surface outcrop, and the top of the Yates being mapped from Carlsbad to McKittrick Canyon. Thus the subdivision of the Whitehorse-Capitan is simplified, he stated, making it more suitable for daily use by subsurface and also field geologists. From top downward he subdivided it into Carlsbad, Yates, Seven Rivers and Queen, which involved a redefinition of the Carlsbad.

Other points brought out in his discussion were: The graduation of Whitehorse into Capitan disposes of the untenable theory that the Whitehorse is Triassic. The Yates sand passes beneath beds containing Permian (Guadalupian) fossils. Even the youngest Carlsbad grades laterally into massive Capitan limestone, and all the Capitan limestone grades into the upper 800 feet of the Delaware

Reserves Barrels

Mountain sandstone. The lower Castile formation is younger than the Capitan, which it overlaps. In conclusion he presented evidence pointing to the Pleistocene age of the Pierce Canyon beds.

In his discussion of reef barriers, Mr. Lloyd stated that studies of the organic reefs of the Permian basin and their relationships to rocks of contemporaneous age showed a pronounced threefold facies, which he proposed to call the reef facies, the lagoonal facies and the "pontic" facies. The latter is a new name proposed for the facies group of which the Delaware Mountain formation, the Black Shale basin, the Bone Spring formation of the Delaware basin and the type Leonard formation (not including the Hess facies) of the Glass Mountains were offered as good examples. The reefs form natural barriers, he stated, separating the rocks of pontic facies from the sharply contrasted lagoonal facies which, in the Permian basin, consist of dolomitic limestones grading laterally into anhydrite and rock salt.

In further summary, he said that by analogy, the reef barriers may serve as adequate explanation of the origin of the thick salt and anhydrite (or gypsum) deposits of western Colorado and many other areas. In each case we should expect a lateral gradation from the salt and gypsum (or anhydrite) into dolomitic limestone. Likewise, reef barriers may be the explanation for such contrasts as the early Paleozoic Ouachita facies (pontic facies) of the Ouachita Mountains with the contemporaneous, dominantly limestone facies (lagoonal) of the Arbuckle Mountains. In a like manner, he said, the Ordovician Marathon facies (pontic) may be separated by a reef barrier from the contemporaneous foreland (lagoonal) facies.

The role of aerial photography in geological exploration also received attention at the Friday morning session, two papers being devoted to this topic. Louis V. Olson of American Smelting & Refining Co., El Paso, described the progress made in this work:

"Sensitive films and development of modern photographic materials have aided aerial photography to the point that by proper use of light filters slight color changes may be detected, denoting bedding plane changes, which cannot be detected by the eye. Extremely sensitive emulsions make it possible to produce usable photographs even with the existence of overcast skies. Filters and lenses have been developed to the point where clear photographs may be made from a height of 22,000 feet and covering an area of 750 square miles."

Cary P. Butcher, Berte R. Haigh and H. A. Hemphill, president, West Texas Geological Society

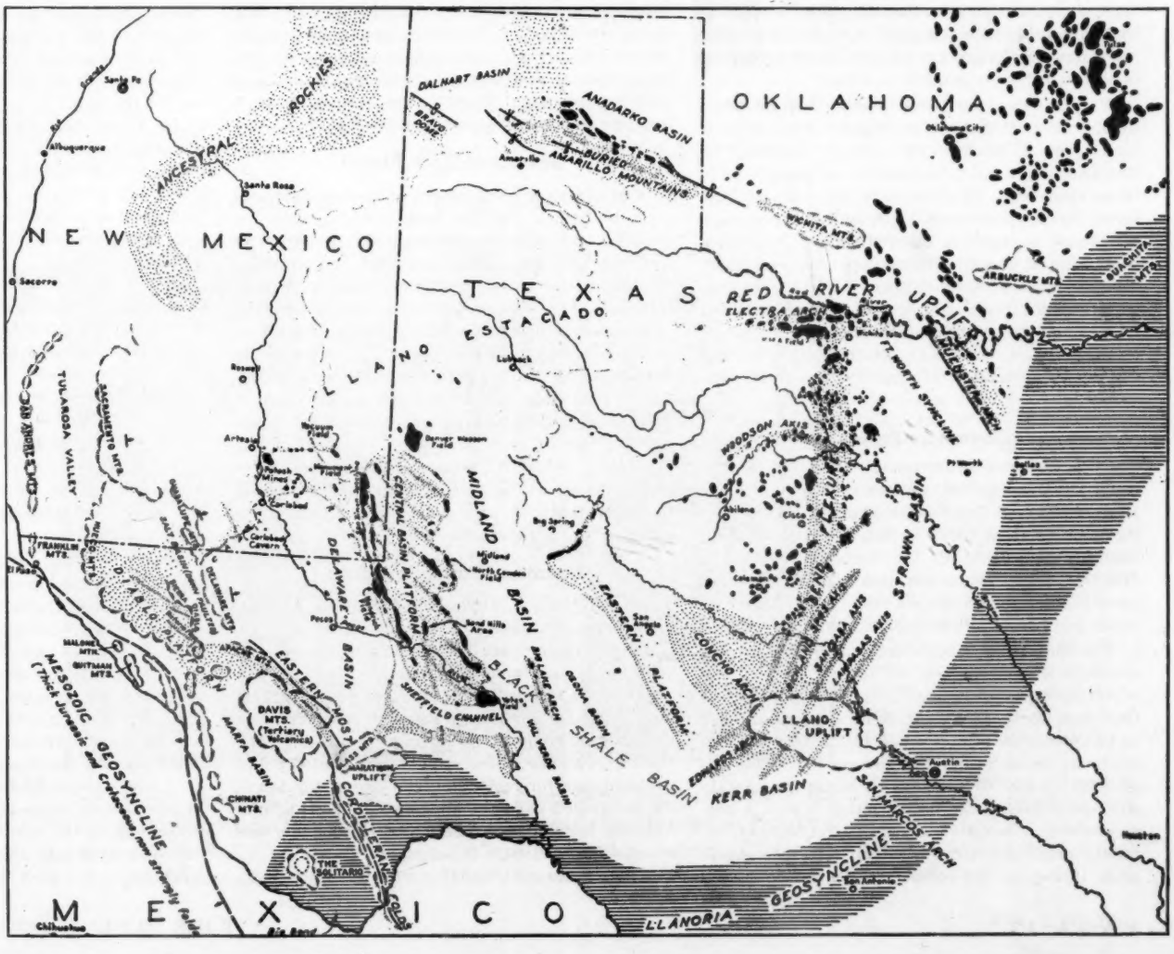
In the second of the papers dealing with aerial photography, Cary P. Butcher of Tide Water Associated Oil Co., Midland, discussed "The Guadalupe Mountains as They Look to the Aerial Geologist."

Another very interesting paper of the Friday morning session was read by Philip B. King, associate geologist, Geological Survey, Washington, D. C., dealing with the relation of Permian sedimentation to tectonics. This work was based on observations in the areas of Permian outcrop of northern Trans-Pecos Texas, and especially in the Guadalupe Mountains and the Sierra Diablo. These two regions are mutually supplementary, in that the first exposes the higher Permian and the second the lower Permian and pre-Permian rocks. In part the author stated:

"The stratigraphy of the Permian series is complex, for it is characterized by great and abrupt changes in faunal and lithological facies and in thickness of beds. The most striking features are limestone reefs, of which one of the largest is formed by the Capitan limestone. These are thicker and less clastic than adjacent contemporaneous deposits. Other less striking but no less significant changes are common, including lateral gradation of limestone into clastic rocks or evaporites, and of one variety of limestone into another.

"These complex relations were produced by variations from place to place of physical-chemical and ecological environments at the inner end of an embayment of the sea. The variations resulted from many causes, the relative importance of which is not easy to evaluate. Some barriers, such as the reef masses, produced largely by sedimentation, restricted the inwash of clastic sediments and caused differences in depth and salinity on opposing sides. Similar effects have been caused by buried hills that are erosional relics of pre-Permian disturbances. The author believes, however, that same structural features arising on the sea floor during Permian sedimentation were also the direct cause of variations in environment and that they were an indirect cause of variations by their effect on the placing of the reefs and hills. The fundamental control of the complex Permian deposits thus appears to be tectonic."

Regional structure map of West Oklahoma, Texas and New Mexico



Decision on Compact Revision Postponed Until December

By C. O. WILLSON

After failing to reconcile differences of opinion within its own membership the Interstate Oil Compact Commission meeting in Tulsa last Thursday, postponed until its next session final decision on the question of whether or not the four-year-old compact shall be continued in its present form.

It is expected that an agreement will be reached before the next meeting of the compact commission which will be held in Fort Worth, Tex., in December, and that a resolution will be adopted at that time asking the legislatures of the oil-producing states and Congress to approve the continuance of the compact for another two years.

The fact that the Tulsa meeting was preceded by the annual conference of state governors, at which Gov. E. W. Marland and the Oklahoma oil fraternity were hosts, resulted in an exceptionally large attendance of oil men at the compact sessions. Twelve governors, representing oil-consuming states as well as oil-producing states, were shown the oil country during their three-day meeting. The entertainment features ended Wednesday when the governors and several hundred oil men from all parts of the Southwest were guests of Frank Phillips, chairman of Phillips Petroleum Co., at his famous Woolaroc ranch near Bartlesville, Okla.

Governors Present

The governors present were: Bibb Graves, Alabama; R. C. McMullen, Delaware; Henry Horner, Illinois; M. C. Townsend, Indiana; Walter A. Huxman, Kansas; Lloyd C. Stark, Missouri; R. L. Cochran, Nebraska; E. W. Marland, Oklahoma; Olin D. Johnson, South Carolina; James V. Allred, Texas; and governors-elect W. Lee O'Daniel of Texas and Leon C. Phillips of Oklahoma.

The conference brought forth a statement from Governor Henry Horner, of Illinois, that he favored the passage of an oil conservation statute in that state early next year. Several proposals are to be offered in Illinois when the legislature convenes in January and the governor promised to give his support to a bill which would incorporate the best provisions of acts in other states. A prediction that a conservation act would be made effective came also from William Bell, who represents Illinois on the compact commission.

Informal discussions by oil men gathered in Oklahoma during the three days revealed that, in the opinion of many, Illinois, with its rapidly increasing production, will play an important part in market trends, affecting the entire industry over the remainder of 1938 and 1939. At the compact meeting, Dr. Alfred H. Bell, head of the oil and gas division of the Illinois Geological Survey, presented a report showing the rapid growth of oil development in Illinois in recent months due to new pool discoveries. He predicted that the new fields, exclusive of old production, will produce 100,000 bbls. daily by the end of the year. He said the proven acreage of pools discovered in 1937 and 1938 totaled about 31,000 acres, representing a proven reserve in excess of 200,000,000 bbls.

Governors-Elect Attend

Support for a continuance of the compact was given by Leon C. Phillips, Democratic nominee for governor and probable successor on January 1 to Governor Marland, who attended the compact meeting. Although guarded in his remarks, W. Lee O'Daniel, who ran away with the Democratic gubernatorial nomination in Texas in July, also promised support for the compact. His statements indicated possible higher taxes for the oil industry in that state in carrying out his preelection promise regarding old age pensions. Frankly explaining that he knew little about the oil business, he said: "I wish all the industries in Texas were as prosperous as the oil industry," and "I propose to keep it that way, as we are going to need someone to pay the additional taxes."

Huxman Wants Revisions

Gov. Walter A. Huxman of Kansas, who attended the conference of governors but was absent from the compact meeting, is probably responsible for the postponement of action in regard to terms of the compact to be submitted for approval next year. He again expressed his opposition to the present compact as having "no teeth." The Kansas governor is in the midst of a heated political campaign for reelection, and one of the issues has developed from the allegation that his administration has not been able to obtain adequate outlets for the producers of the state.

The Kansas governor first announced his opposition to the present compact previous to the meeting held in Wichita last May. He contended then that his state was not being given the crude outlets to which it was entitled based on new discoveries. He referred to the compact as "an advisory body, which has no authority to correct this condition." His opposition has continued since that time and there have been threats that Kansas would not ratify the compact again next year. Judge E. R. Sloan, who represents the state on the compact commission and who reflected the position of the governor at the compact meeting, reviewed proration developments in the state and concluded "We are doing the best we can and hoping for the best."

In Tulsa, Governor Huxman elaborated his views regarding the compact, which were submitted to the committee on revision in detailed form. He favors giving the compact authority to allocate production between the states in accordance with minimum and maximum allowables.

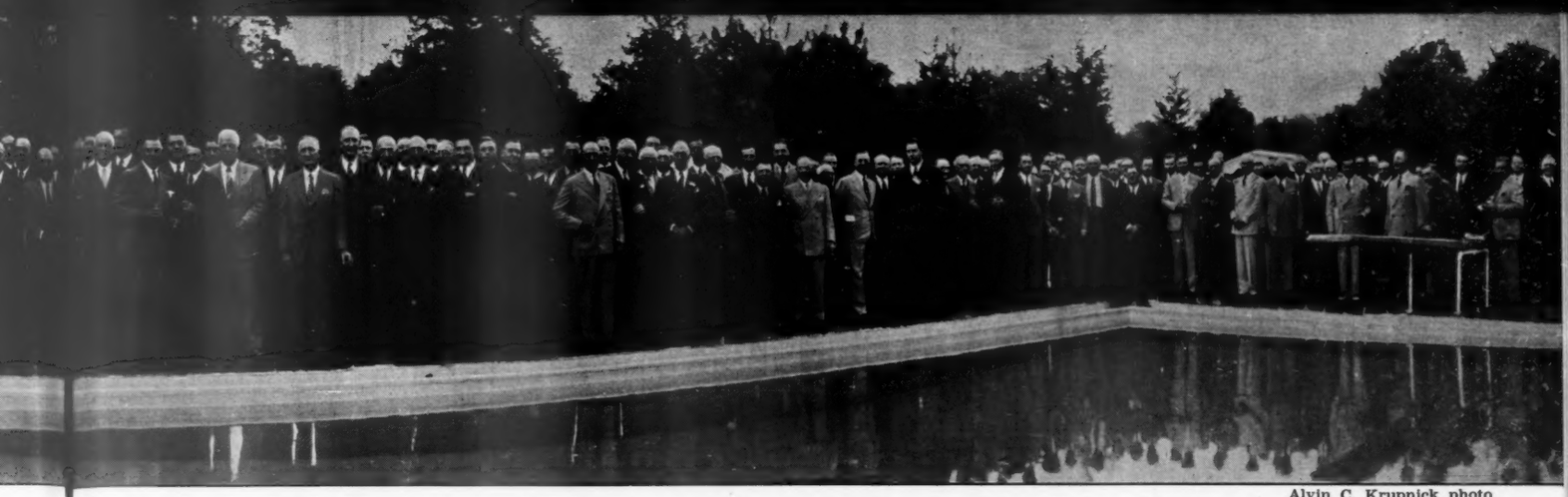
Federal Factor

A state would be guaranteed a minimum allowable and its proportionate share of any market above the minimum totals of all the states. The governor favors federal representation on the compact and would give the commission authority to regulate imports and withdrawals from storage. An outline of his plan as submitted to the committee follows:

"A commission composed of representatives of the several oil-producing states and the federal government.

"The commission should have the duty to periodically find the demand for crude oil and its products within the United States; the minimum amount which each producing state should produce to prevent waste; the maximum amount which each oil-producing state may produce without waste therein and so limited as to permit each state to produce its minimum; the amount which may be withdrawn from storage and the amount which may be imported.

"An agreement by the federal government and the compacting states that the findings and recommendations of the commission will be effectuated. The compact should provide expressly that it rests upon comity between the compacting parties and



Alvin C. Krupnick photo

Visiting governors, Interstate Oil Compact Commission and prominent oil men guests of Henry N. Greis at his home in Tulsa

that no such party should have the right to sue another."

"It is necessary," said Governor Huxman, "for the commission to have a representative of the government if the commission is to find the demand for imports. It is advisable because of the effect on interstate commerce, and affords the nonproducing states a representative. It may be necessary to make some special provision relating to the voting power of the federal representative."

The Huxman plan does not have the active support of any of the other states, and it has the strong opposition of Texas, headed by Col. E. O. Thompson, chairman of the compact commission and chairman of the Texas Railroad Commission. Colonel Thompson favors the continuance of the compact as an advisory body whose efforts are confined to the elimination of physical waste in the production of a wasting resource as expressed in a premeeting statement. (See The Oil and Gas Journal, September 29, 1938, page 39.) He reiterated this position during the compact sessions Thursday, and his views were supported and extended by some of the other members of the compact and oil men in attendance. The necessity of protecting the rights of the states to control operations within their boundaries without interference from outside authority, and the danger of federal encroachment in the enforcement of conservation, were emphasized by the speakers.

Criticism of some of the major crude oil buyers and pipe line companies came from Charles F. Roeser, Fort Worth operator and president of the Independent Petroleum Association of America. He maintained that several of the large buyers were ignoring the allowables as established and approved by state authorities both in regard to pools and to leases within pools.

"A fundamental principle of conservation is the preservation of the petroleum reserves underlying the areas of the pumping well production," Mr. Roeser said. "Any conservation order should be based upon a recognition of this principle. The principle underlying a proper enforcement of the orders of the various state regulatory bodies is that these orders must be fair and equitable as between the various fields and properties within the states. This equity and fairness is now threatened by the individual action of purchasers in certain states and areas wherein pipe line proration does not conform with the proration orders promulgated by the state regulatory bodies. Individual pipe line proration results in inconsistencies within the various areas wherein one property has an outlet equal to the regulatory body allowable while at the same time an adjoining property may not have. It results in one field enjoying a market outlet inconsistent with the outlet of other fields where the oils are of comparable value.

Suggested Remedy

As a remedy, Mr. Roeser suggested that each state incorporate in its state allowable orders the following statement:

"Because in the exercise of its jurisdiction the (here insert the name of the state regulatory body) has fixed the allowables in the foregoing order according to law in such manner as equitably to allocate among the various pools in the state their several portions of allowable production during the period covered by this order and in order that no common purchaser of oil within this state may unduly disturb such equitable allocation made by the commission, it is further ordered that no common purchaser of oil within this state shall limit its production from any lease or property in any pool below the allowable fixed for such lease or property unless at the same time and during all times of such limited purchase such common purchaser limits its purchase from all properties from which it is purchasing oil to the same extent."

Taking cognizance of what Colonel Thompson termed a "jittery" condition in the oil business, Mr. Roeser referred to the large reductions in crude oil storage in recent months as indicating a sound statistical situation with the conclusion that there is no justification for crude price reductions now.

Overcapitalization in the production division of the oil industry similar to that which now prevails in the marketing end was predicted by Axtell J. Byles, president of the American Petroleum Institute, as a result of the failure to control well spacing. Speaking at the compact luncheon Thursday, Mr. Byles, in addition to condemning the practice of drilling unnecessary wells, spoke briefly of other developments in the oil industry which threaten its stability. He estimated that around 275,000,000 bbls. of refinable crude oil are needed for minimum working requirements. Present stocks are now 280,000,000 bbls. He referred to the large increase in heavy fuels as a menace, control of which rests in the flexibility of refinery operations. He commended the compact for its accomplishments.

D. Harold Byrd, East Texas operator, expressed opposition to the Saturday and Sunday shutdowns now effective in Texas and other features of the state's proration enforcement.

Colonel Thompson and all of the officers of the compact commission were reelected at the Thursday morning session. Lieut. Governor Hiram M. Dow of New Mexico is vice chairman and Arthur L. Walker of Oklahoma City, secretary.

All of the six compacting states were represented at the compact sessions and in addition several of the visiting governors were present. Those who took an active part in the program included: Texas, Col. E. O. Thompson, Jack Blalock and Elwood Fouts; Oklahoma, Gov. E. W. Marland, Tom Anglin, and Reford Bond, chairman of the Oklahoma Corporation Commission; Kansas, Judge E. R. Sloan and E. E. Blincoe, members of the Kansas Corporation Commission, and E. H. Dahlgren, in charge of the oil conservation division; New Mexico, E. K. Wells, chairman of the New Mexico School of Mines, and A. Andreas, geologist; Colorado, W. M. Downing and W. H. McFadden; Illinois, William A. Bell.

Alfred G. White, chief of the petroleum economics division of the Bureau of Mines; H. A. Meyer, executive manager of the Kansas Independent Petroleum Association, and George Hill, Jr., president of Houston Oil Co., were among those who spoke during the discussion which followed the luncheon on Thursday.

GOVERNORS' PARTY AT WOOLAROC RANCH

Gov. M. C. Townsend; Indiana; Gov.-elect Leon (Red) Phillips, Oklahoma; Gov. E. W. Marland, Oklahoma; Frank Phillips, host; Gov. Walter A. Huxman, Kansas; Gov. R. L. Cochran, Nebraska; Alfred M. Landon, Kansas; Gov.-elect W. Lee O'Daniel, Texas; and Gov. James V. Allred, Texas

SPARKS FROM THE NEWS

IMPORTANT DISCOVERY

A flowing well in Garfield County gives indication of furnishing northwestern Oklahoma another field with a large area opened for future exploration.

MORE DOME OIL

Two salt dome tests in Coastal Louisiana last week added to the many millions of barrels of new reserves accounted for this year by dome discoveries.

TOP AND BOTTOM

Plans have been completed to drill 177 tideland wells in California. The tops of the holes will be on dry land with the bottoms under the ocean.

OFFSET DISCOVERY

An offset test drilled to a different depth opened an Arbuckle lime pool in Rice County, Kansas.

OIL RESERVES

Geologists convened at El Paso were given figures showing the Permian basin has about one-third of the total proven reserves in this country.

PLOWED UNDER

A Mid-Continent refiner writes: "Unless something happens to bring parity between crude oil and product prices all independent refiners are likely to be 'plowed under' before spring."

TAX AND GOLD

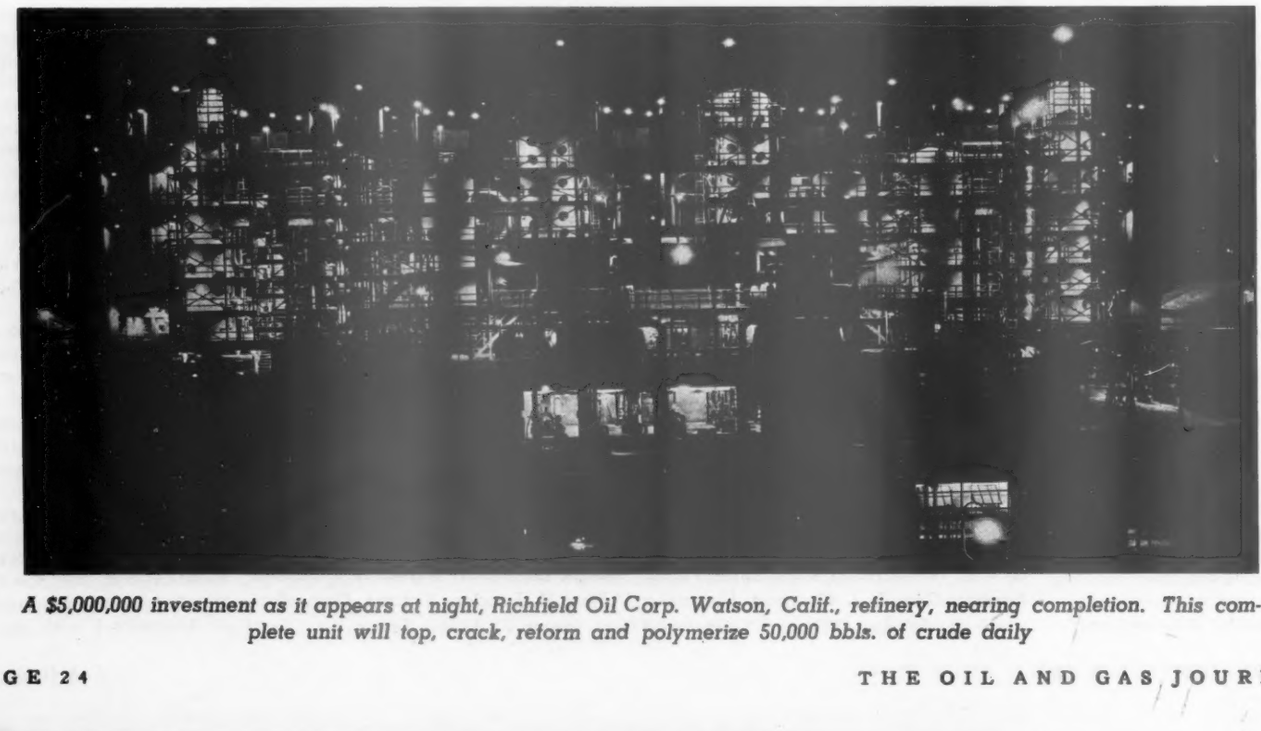
A reader points out that the oil industry's tax bill in the United States last year, totaling one and a third billion dollars, was $90,000,000 more than the value of the world's production of gold, figured at $35 per ounce.

SMALL CHANGE

Oil men planning to visit the Birk City, Ky., area should be supplied with an abundance of small change. They will need it to pay fees on the numerous ferries and toll bridges of the district.

FOR RECORD BOOK

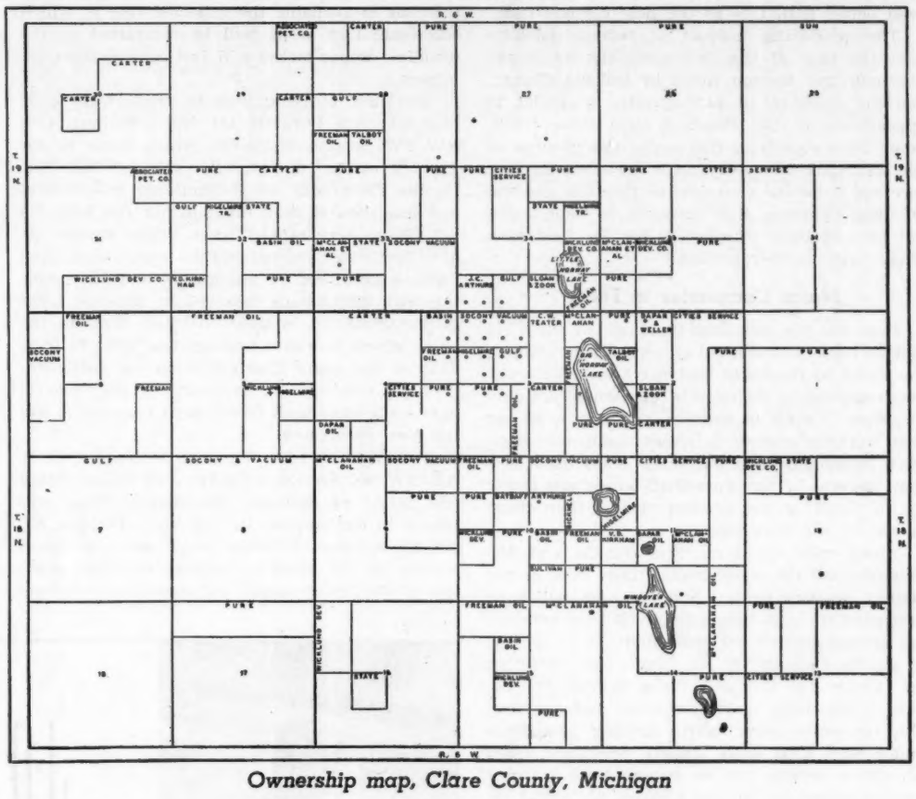
Here is one for the record book: Independent operators have announced plans to drill two wells, one to the Benoist and one to McClosky, on a 16-foot square cemetery lot in Lake Centralia, Ill., field. Eight offsets may be forced.



A $5,000,000 investment as it appears at night, Richfield Oil Corp. Watson, Calif., refinery, nearing completion. This complete unit will top, crack, reform and polymerize 50,000 bbls. of crude daily

Geology of the Clare County Field in Michigan

By R. B. NEWCOMBE
Consulting Geologist, Mount Pleasant, Mich.



Ownership map, Clare County, Michigan

In Michigan, Clare County is where the north begins. The city of Clare on the south border is 15 miles north of Mount Pleasant on U. S. Highway 27, the main paved route between Lansing and the Straits off Mackinac. The county is served by two railroads, the Ann Arbor and the Pere Marquette crossing it from southeast to the northwest in the southern part. A branch line of the Pere Marquette also connects Clare with Harrison, the county seat which is centrally located to the north. A second paved highway crosses from southeast to northwest in the southwestern part. The subsidiary main roads are well constructed of good gravel.

The topography of the region is for the most part rough and rugged, and north of Harrison the Houghton Lake State Forest includes almost all of the north tier of townships. Inland lakes abound and several large tracts of land are given over to ranches for sheep and cattle raising. The strong hilly Gladwin and West Branch moraines extend across from northeast to southwest and these high morainic ridges commencing just north of Clare are the cause of thick glacial drift ranging from 600 to 700 feet. The surface elevations in most of western Clare County are anywhere from 1,000 to 1,250 feet above sea level.

The first development north of Clare was for gas, but a number of early unsuccessful wildcats were drilled to the Dundee. These were scattered through the county because of its location "in trend" and the proximity of the Vernon pool to the south and the Beaverton and Buckeye pools to the east.

The original Clare gas field discovered in October, 1929, is a small field in the Michigan "stray sand" located in sections around the corner of Hatton, Lincoln, Grant, and Surrey townships. Most of the field is in Section 6, Grant Township (17n-4w). Three unsuccessful Dundee tests drilled in this field showed no particular structural relief and "threw a damper" on Clare County activity for some period of time. However, Dundee oil and gas showings were found in several other early tests and much of the county was under lease prior to the present development.

Since 1935 Sun Oil Co. has drilled one well a year in eastern Clare County. These were No. 1 Becker, C SE SE Section 2-18n-3w; No. 1 Woodward, SW SE SE Section 24-19n-3w; No. 1 Campbell, NE NW NW Section 12-19n-3w; and No. 1 Weldon, NE NE SE Section 14-19n-3w. During 1935 and 1936, as a result of the Currie pool in northern Vernon Township, Isabella County, two deep tests were made near Farwell: Farwell Oil & Gas Co.'s Siegle and others in NW SE SE Section 26-17n-5w, and Arthur Hansen's No. 1 fee, SE SE SE Section 26-17n-5w. McClanahan Oil Co. also drilled a dry hole to 4,034 feet on No. 1 Robinson, SW SW SW Section 31-17n-4w. Two wells were put down in Sheridan Township; Fortney Oil Co. No. 1 Nevill, SE SE NW Section 19-17n-3w, in 1936, and Big Basin Oil & Gas Co. No. 1 Rilett and Murphey, NW NW SE Section 26-17n-3w, in 1938. The Wittmer Co. drilled two wells in northern Lincoln Township during 1937; No. 1 Musgrave Sales Co., C SW SW Section 3-18n-5w, and No. 1 Palomar Royalty Co., C Section 2-18n-5w.

The structural control from wells in Wise and Vernon townships, Isabella County, and in southern Clare County indicated there was a high in southeastern Grant Township, Clare County. Gulf Refining Co. acquired a block of leases in this area and drilled a well in NW NW NW Section 36-17n-4w, which came in for 14,200,000 feet of gas in the Michigan "stray" from 1,263-77 feet. American Production Co., a subsidiary of American Light & Traction Co., which owned the "stray sand" gas rights under the Gulf acreage, took over the well for gas and it never reached the Dundee. The gas well was brought in February 11, 1938. Gulf subsequently moved one location north (SW SW SW Section 25-17n-4w) and drilled a deep hole which was completed April 26, 1938. It was structurally high compared to the surrounding Dundee wells but did not produce. Since then the field has been developed in the "stray" with three gas wells and two small oil wells capable of producing from that sand.

The Freeman-Redding or Van Horn pool was brought in by S. J. Higelmire, trustee, No. 1 A. E. Van Horn, NE SW NW Section 3-18n-6w, Freeman Township, at 3,894½ feet on July 9, 1938. The first show was encountered at 3,892 feet two days before. This discovery was the result of a long campaign in northern Clare County commenced by Theodore Oil Co.'s Thompson Brothers well in 1931. As far back as 1934 George W. Pirtle worked out a broad structural nose through this territory from wells then drilled and advised McClanahan Oil Co. on the location of the Frackleton test. The leasing activity around the corner of Redding, Greenwood, Lincoln, and Freeman townships in 1936 and 1937 was along the same structural trend, and Pure Oil Co. drilled its No. 1 Mary C. Apel, C N NW SW Section 31-19n-5w, in 1937. Although dry at the total depth of 4,017 feet, this well showed 20,000 feet of gas at 4,009 feet and indicated that the "play" must be somewhat farther west and north. As a result, leasing and test well drilling by major companies took place in this general direction with renewed vigor in 1938 and the Van Horn discovery was drilled. Now the boom is on.

A generalized log of the discovery well will give an idea of drilling conditions in the field and depths of various structural markers: Elevation, 1,085.1 feet; Michigan "stray," 1,475-85 feet; Marshall, 1,557 feet; Marshall red rock 1,595-1,703 feet and 1,710-31 feet; Antrim, 2,588 feet; Traverse, 3,248 feet; Dundee (or Monroe?), 3,891 feet; total depth, 3,894½ feet. The logged water zones and the oil and gas showings are as follows: water 950-83 feet; show gas, 1,349-53 feet (in brown dolomite); show of oil, gas, and water, 3,372-78 feet (100 feet oil over night); pay, 3,892-94½ feet. The casing used in the hole includes: 10-inch, 753 feet; 8¼-inch, 760 feet; 6⅝-inch, 1,748 feet; 5⅛-inch, 3,891 feet. It might be pointed out that the shallow gas showing is in a Michigan formation brown dolomite occurring about 125 feet above the "stray sand." The "stray" at 70 to 80 feet above the Marshall also carries large volumes of gas in the region and presents difficult drilling problems in wells headed for the Dundee.

The Van Horn discovery flowed naturally by heads at one and a half to one and three-quarters

hourly intervals, and made about 40 bbls. the first flow. Its initial production was 285 bbls. and the well made 1,034 bbls. the first five days. On August 11, 200 gallons of acid was applied to the pay, and production increased to 40 bbls. per hour and 893 bbls. for the next 24 hours. It produced even better than this as the hole cleaned itself.

The producing horizon is porous dolomite near the base of the Bell shale similar to the Sherman and Vernon fields in Isabella County, and the crude oil of 44.8° gravity is similar in appearance to that obtained from these fields. Some have correlated this horizon as Monroe in age, but such interpretation is based on the texture and dolomitic character of the rock and not on fossil evidence. It is plausible in some wells, but may be open to question for the field as a whole until further proved.

Major Companies in Field

Pure Oil Co. has large holdings in the field and its leases are blocked still more solidly along the trend to the north and northwest. This pioneer company in Michigan is represented not only by leases it holds in entirety, but also by 50 per cent working interest in leases taken over from Shell Petroleum Corp. on which it has the operation. Several of the Pure-Shell leases are closer to the heart of the present "play," than those owned by the Pure alone.

Along with the Pure, Sun Oil Co. and McClanahan Oil Co. were among those first in the district, but new drilling and discovery will have to expand the area before they will have substantial acreage proved for production.

Socony-Vacuum Oil Co., Inc., Gulf Refining Co., Carter Oil Co., and Cities Service Oil Co. have considerable close-in acreage and the first two companies have active drilling campaigns under way with wells already producing flush oil. Cities Service has an 80-acre tract "farmed out" to Dapar Oil Co. and Charles W. Weller on which a well is nearly finished. Carter Oil Co. will soon have offsets to drill.

Gas Production

The extensive activity in northern Clare County will expand the gas reserves available in the Michigan "stray sand" in much of the area that will not produce from the Dundee. Several wells in northern Lincoln Township had sufficient "stray" gas to be commercial and of the recent tests Gulf Refining Co. No. 1 Ann Arbor Railroad, C W NW NW Section 21-18n-5w, gauged 21,000,000 feet at 1,548-55 feet. This gas was cemented off in going deeper to the Dundee, but the well was plugged back to 1,560 feet when the Dundee proved unproductive. After 180 rounds of bullets from a Lane-Wells gun perforator, a 200-gallon acid washout, and two nitro shots it gauged 1,800,000 feet open flow.

So far three wells have shown large volumes of gas in the Van Horn discovery area. McClanahan Oil Co. No. 1 Perkins, NE NE NE Section 15-18n-6w, gauged a maximum of 16,900,000 feet at 1,472-85 feet. Socony-Vacuum Oil Co., Inc., No. 1 Van Horn, SE NW NW Section 3-18n-6w. the north offset to the discovery well, tested 3,000,000 feet of gas in the "stray." J. V. Wicklund Development Co. No. 3 State M, NE NW SE Section 5-18n-6w, which was dry in the Dundee had "stray" gas estimated upwards to 4,000,000 feet. The gas which was drilled wet in both Wicklund and Socony wells blew down to around 500,000 feet settled, and the conservation of shallow gas encountered "on structure" will be a problem, if this gas is to be put to commercial use.

Pipe Line

An 8-inch welded oil pipe line from Mount Pleasant to the field will soon be constructed by Michigan Toledo Pipe Line Co. The 35 miles of right of way for the line has been purchased and preliminary survey work has been completed. It is contemplated it will be finished and running oil by the end of October, so that more of the flush production now being prorated to 1,500 bbls. per well will go on the market. Until space in this line is available the expected rate at which additional new wells will be completed in the next few weeks makes still further proration imminent.

The first outlying well to produce oil commercially was Pure Oil Co. No. 1 Switzer, C S NW SW Section 27-19n-6w, which came in for 45 bbls. estimated, naturally, at 3,899 feet. The Dundee (Monroe?) was encountered at 3,894 feet and gas showed near the top, but the hole did not fill up very rapidly when drilled deeper. At 3,903 feet water showed and the well was plugged back to 3,900 feet for application of acid. Acidizing with 200 gallons followed by another 1,000-gallon treatment brought the well back to the point where it would average less than 25 bbls. daily on the pump. This extension was sufficiently high structurally, however, so that several new wells have been commenced between it and the Van Horn area.

J. V. Wicklund Development Co. No. 3 State M. NE NW SE Section 5-18n-6w, was off structure and failed to produce. Considerable hope was placed in McClanahan Oil Co. No. 1 Perkins, NE NE NE Section 15-18n-6w, which was high structurally on the shallow markers and had much gas in the "stray sand," but it was 8 feet lower than the discovery well on the Dundee and found water 63 feet in the formation.

Six miles southeast of the field, Gulf Refining Co. wildcat test (No. 1 Ann Arbor Railroad. C NW NW NW Section 21-18n-5w) caused a great amount of interest while being drilled. Like McClanahan Oil Co. Perkins well, it, too, was a large gas well in the "stray" and correlated from 20 to 30 feet higher on the shallow markers than a well a mile to the west which had a showing in the Dundee and was up the regional dip. This wildcat was only 7 feet higher than the well to the west when drilled into the Dundee, but it had a significant showing of oil and gas and indicated potentialities in the region. The top of the Dundee was at 4,014 feet, and gas and oil were found at 4,019-23 feet. The volume of gas was estimated from 300,000 to 500,000 feet. There was an increase of gas and oil at 4,019-23 feet, but salt water started to come in the hole at this point. The well was drilled to a total depth of 4,285 feet in an effort to find upper Monroe production and to determine whether the showing was in the Dundee or the Monroe.

Operating Problems

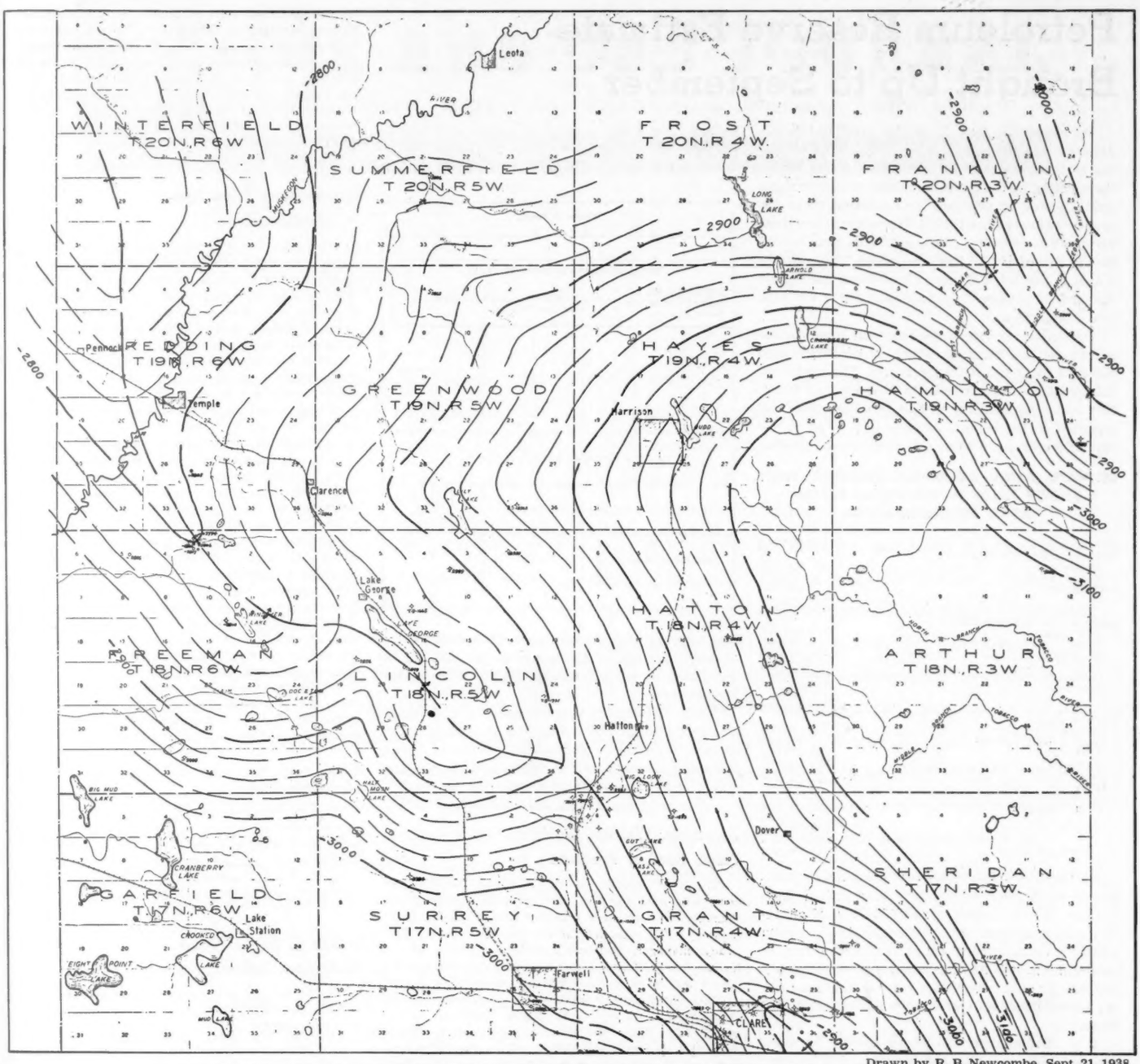
The wells in the Van Horn pool thus far have encountered their pays only a few feet in the Dundee horizon. The discovery well had production 1 foot from the top, but the south offset encountered two pays at 6 and 14 feet in the formation. Socony-Vacuum Oil Co., Inc., north offset produced at 12 feet in the Dundee and

JOURNAL EDITOR *off for* SOUTH AMERICA

First-hand information covering developments in South America will be brought to readers of The Oil and Gas Journal by its editor, C. O. Willson, who has left on a tour of the important oil fields.

Recognizing the increasing importance of South America as the second oil continent, with large undeveloped reserves and vast unexplored regions, the Journal last summer made preparations for this complete survey of operations. During the past two months detailed arrangements were made so that Mr. Willson, traveling by airplane, would cover in several weeks a wide area which otherwise would require six or more months.

In addition to describing developments in timely articles, Mr. Willson will prepare special material for The Oil and Gas Journal's annual International Number, to be published December 29, 1938. This number will contain a special engineering section printed in the Spanish language.



Drawn by R. B. Newcombe, Sept. 21, 1938

Contours in Clare County, Michigan, on base of Bell shale. Contour interval 20 feet

Gulf Refining Co. east offset found oil at 11 feet from the top. Although S. J. Higelmire, trustee, No. 2 Van Horn (the south offset), did not find water in the pay 14 feet beneath the top of the formation, Socony-Vacuum No. 1 Van Horn (the north offset) cut about 1 per cent water when opened wide. This water did not show when the well was pinched back, but it did indicate that care must be used in drilling the wells too deep and in using too large acid shots for increasing output. In this respect the field is very much like the Sherman pool west of Mount Pleasant.

The wells respond excellently to acid and satisfactory results are obtained from 200-gallon treatments. However, first shots of 250 and 500 gallons were tried in two wells and these brought on better increases so that second treatments of 500 gallons were used in several cases to further step up production. Examples of the increases from acid are Gulf No. 1 Van Horn which 200 gallons brought from 90 bbls. up to 1,391 bbls., and Socony-Vacuum Van Horn well which the same sized treatment brought from 596 bbls. up to 2,800 bbls. More striking than these is S. J. Higelmire No. 2 Van Horn which 500 gallons brought from 52 bbls. in 12 hours up to 2,256 bbls. in 24 hours. The remarkable feature about these gains from acidizing is the way the wells hold up for several days after introduction of the acid.

The landing of a long string of 10-inch drive pipe has slowed up drilling progress, but thus far only one hole in the district had drive pipe permanently stuck. This well was taken over by Taggart Brothers, Inc., with rotary equipment and carried on to the 6⅝-inch casing point in the top of the Coldwater shale just below the lower Marshall red sandstone. In wells drilled completely with cable tools the usual 8-inch "cave string" is set through the Bayport-Saginaw contact, but in some of the wells commenced with rotary the 8-inch is set through the Marshall at about 1,750 feet. Lupher Drilling Co. has two rotaries in the field for drilling the upper part of the hole to this depth. If cable tools are used for the entire hole, the 6⅝-inch is used to shut off the Marshall water. This pipe is cemented back through the Marshall sandstone, but the 8-inch is landed with Aquagel or mud behind it so that it can be pulled after the 6⅝-inch is set. The 5⅞-inch oil string is landed on top the Dundee and cemented. The discovery well was allowed to flow through the casing for a time, but now it has been tubed. It is common for all wells in the field to be tubed with 2½-inch tubing.

Control heads and master gates are well anchored and flow lines are 3- or 4-inch. Large separators usually are placed close to each tank battery and excess gas is either sold for fuel or burned in risers. Tank batteries are large because of pipe line limitations. The discovery 40-acre lease has eight 500-bbl. bolted tanks and Socony-Vacuum north offset 80-acre lease has five 500-bbl. tanks. Gulf east offset has a battery of 250-bbl. bolted tanks. The present pipe line outlet is

(Continued on Page 34)

Petroleum Reserve Estimate Brought Up to September

By request of Gov. E. W. Marland, Oklahoma, Alex. W. McCoy of Ponca City, Okla., has revised the estimate of petroleum reserves prepared for the meeting of the governors held at Hot Springs, Ark., in May of this year and brought these figures up to September 1, 1938. There have been some revisions in estimates of the old fields, and the discovery record of 1938 has been added. The cost estimates in the original report have been used again because they were only approximations for relative comparisons.

Particular consideration has been given to the portion of the reserves which is developed and referred to as the drilled reserves. The ability of this portion of the reserve to produce, and its effect upon the industry at this time has been emphasized in the report. Attention is called to the small percentage of known but undrilled reserves.

ESTIMATE TOTAL CRUDE OIL RESERVES FROM KNOWN FIELDS IN THE UNITED STATES AS OF SEPTEMBER 1, 1938

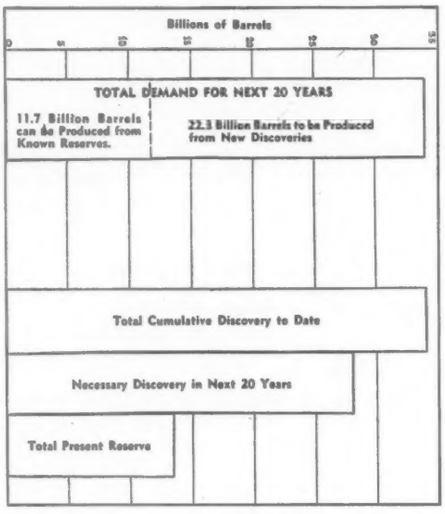
	(Bbls.)
California	2,970,000,000
Rocky Mountain states:	
Wyoming	247,000,000
Montana	72,000,000
Colorado	19,000,000
Total	338,000,000
Central and southern states:	
New Mexico	445,000,000
Texas	6,200,000,000
Oklahoma	1,416,000,000
Kansas	648,000,000
Louisiana	644,000,000
Arkansas	177,000,000
Total	9,530,000,000
Eastern states:	
Illinois	200,000,000
Indiana (old Illinois)	12,000,000
Kentucky	45,000,000
Michigan	75,000,000
New York	60,000,000
Ohio	34,000,000
Pennsylvania	290,000,000
West Virginia	30,000,000
Total	746,000,000
Total all states	13,584,000,000

Of the 13,584,000,000 bbls. of reserves approximately 10,300,000,000 bbls. have been drilled, leaving only a little over 3,200,000,000 bbls. of oil reserves to be drilled in the future. This represents a little over two years' supply at present rate of consumption. It is further stated that at least a billion barrels of this undrilled reserve land may not pay for development under the present market conditions.

It is calculated in this report that in 20 years between 1938 and 1958 the industry will be confronted with the problem of discovering 28,000,000,000 bbls. of crude oil. This is an average finding rate of 1,400,000,000 bbls. per year. Since approximately the same average finding rate has existed between 1924 and 1938 it might appear reasonable to expect such discovery in the future as a likely eventuality. The following table indicates that a trend in discovery rate has existed for the past eight years where discovery averaged less than demand. The 15-year period previous showed a constant large excess of discovery over demand.

While these figures might suggest some possibility in the immediate future of a lessened discovery rate it may not materialize because a discovery at any time may open a new district capable of adding sufficient reserves to overbalance quickly otherwise stable conditions. Reduction in discoveries for a few years will not be sufficient to prevent the continued increase in the drilled reserves for a time, although it would assist in general improvement. Reduction in discoveries is undesirable because of the low ratio of undrilled reserve and its importance to future security. Mr. McCoy says:

"The oil industry and the public are living in a fool's paradise. The industry is struggling under an overproduction constantly becoming more menacing through excess drilling, while making an effort to balance budgets and show profits."


Billions of Barrels
TOTAL DEMAND FOR NEXT 20 YEARS
11.7 Billion Barrels can be Produced from Known Reserves.
22.3 Billion Barrels to be Produced from New Discoveries
Total Cumulative Discovery to Date
Necessary Discovery in Next 20 Years
Total Present Reserve

Period*—	Average yearly discoveries	Average yearly demand	Average yearly excess	Average yearly shortage
1915-1920	650,000,000	350,000,000	300,000,000	.....
1920-1925	850,000,000	650,000,000	200,000,000	.....
1925-1930	2,180,000,000	880,000,000	1,300,000,000	.....
1930-1935	750,000,000	890,000,000	.....	140,000,000
1935-1938	850,000,000	1,190,000,000	.....	340,000,000

*Indicates time from end of first year named through second year.

American Welding Society Tulsa Section Program

The Tulsa section of the American Welding Society will hold its first open meeting in the Tulsa Chamber of Commerce Building with a dinner party October 7. The speaker for the evening will be E. J. Brady, manager, Stainless and Alloy Division of the Hollup Corp., Chicago, and at the conclusion of the dinner will speak on "Arc Welding of Stainless Steels."

This Tulsa chapter totals about 100 members. The executive officers are T. M. Hegge, chairman, manager of Tulsa Boiler and Machinery Corp.; E. C. Hinkefent, vice chairman, president, Allied Steel Products Corp.; J. P. Walker, treasurer, president, National Tank Co.; R. R. Thompson, secretary, sales representative for Air Reduction Sales Co. The directors are: R. L. Looney, chairman membership committee, Big Three Welding Equipment Co.; O. L. Rogers, chairman program committee, Big Three Welding Equipment Co.; A. A. Adcock, Vulcan Steel Tank Corp.; William Whenthoff, Tube-Turns, Inc.; F. J. Thompson, National Tank Co.; L. R. Hodell, Carter Oil Co.; H. C. Price, H. C. Price, Inc.; E. F. Kindsvater, Phillips Petroleum Co.; Forrest Hoffman, Tulsa Boiler and Machinery Corp.; C. L. Wiley, Mid-Continent Petroleum Corp.; P. W. Patterson, Patterson Steel Co.; L. M. McKelvey, Vulcan Steel Tank Corp.; L. E. Lippencott, Compressed Industrial Gases, Inc.; R. A. Leach, Chicago Bridge & Steel Co.; Charles McNamar, McNamar Boiler & Tank Manufacturing Co., and James B. Davis, Tulsa Testing Laboratory.

C. G. Wells, National Tank Co., is chairman of the codes interpretative committee, of which M. E. Clausen, Continental Oil Co.; S. L. Spence, Tulsa Boiler & Machinery Co., and J. H. Smythe, Smith Separator Co., are also members. H. H. Bassett, Linde Air Products Co., and S. M. McManus, Muskogee Iron Works, are members of the membership committee, and C. D. Laidley, National Tank Co., and H. M. Rosevear, Wyatt Boiler & Metal Co., are members of the program committee.

Government Files Appeal In Madison Case

CHICAGO, Oct. 3.—Proceedings to reinstate charges against 10 individuals and one corporation freed by Judge Patrick T. Stone in the oil trial in Madison, Wis., in July were begun by the Government today. A motion was filed with the United States Circuit Court of Appeals to vacate the order of dismissal and to reinstate the indictments.

The Appeals Court entered an order directing Judge Stone to show cause on October 24 why this action should not be taken.

Judge Evan A. Evans issued the order on a petition by W. P. Crawford of Superior, Wis., a special assistant United States attorney.

The petition set forth Judge Stone improperly dismissed the charges for insufficient evidence. Eighteen defendants were granted new trials by Judge Stone. Seventeen of the 46 defendants were convicted and fined a total of $65,000.

The defendants involved in today's action were Henry M. Dawes, president, Pure Oil Co.; Edward G. Seubert, president Standard Oil Co. of Indiana; Allan Jackson, vice president, Standard Oil Co. of Indiana; Bryan S. Reid, division manager Chicago division, Socony-Vacuum Oil Co.; C. L. Jones, vice president, Socony-Vacuum Oil Co.; Dan Moran, president, Continental Oil Co.; Frank Phillips, president, Phillips Petroleum Co.; W. G. Skelly, president, Skelly Oil Co.; Jacob France, president, Mid-Continent Petroleum Corp.; A. V. Bourque, secretary and treasurer, Western Petroleum Refiners' Association, and Globe Oil & Refining Co. (Kansas).

Magnetic Storm

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey reports a moderate magnetic storm began at 4 p.m., September 27, and ended at 6 p.m., September 28, and a moderate magnetic storm which began at 4 a.m., September 30, and ended at 5 a.m., October 1, central standard time.

Buildings Being Razed At Eastern Refinery

At the Eclipse plant of the Atlantic Refining Co. at Franklin, Pa., 20 brick, frame, and steel buildings are being razed.

THE MARKETS*

CRUDE OIL: *Eastern Kentucky crude cut 10 cents. Caddo Crude Oil Purchasing Co. reduces price of Lisbon, La., crude 5 cents, but will increase its purchases. General reduction in Michigan fields, ranging from 6 to 9¼ cents. Sales of Illinois basin crude below posted prices reported. Continued substantial reductions in stocks interpreted as a favorable development.*

REFINERY: *Weakness in gasoline is general, with North Louisiana, Arkansas, and parts of the Mid-Continent pressed for outlets. Heating oils fairly firm, but warm weather over large areas has slowed demand. Mid-Continent lubricant market continues demoralized.*

TANK-WAGON AND POSTED DEALER: *Standard of New Jersey and its subsidiary, Standard of Louisiana, reduce both tank-wagon and dealer prices a half cent throughout virtually all their territory. Other changes minor.*

FINANCIAL: *Subsidence of war scare resulted in oil issues recovering most of the ground they had lost. Average of 30 representative stocks for week ending October 1: High, 29.09; low, 25.31; close, 28.92. Week ending September 24: High, 28.27; low, 26.09; close, 26.73.*

**Detailed information in market section.*

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Two Extremes

While there was general recognition at the Tulsa meeting of the Interstate Oil Compact Commission that the compact should be continued there were extremes of opinion as to the part the compact should play in future oil operations.

Obviously, these opinions must be harmonized or there will be danger that there will not be sufficient states to ratify the extension of the compact to make it an effective factor.

Those who favor extending the present compact by giving it authority not even thought of when the pact was first made effective are treading on dangerous ground. The proposal to give the federal Government direct representation on the compact commission, with the commission having authority to decide the allocation of production between the states and then enforce it, is not far removed from complete federal control. It might be a stepping-stone to that development.

It was thoroughly understood when the compact was framed and ratified that no element of compulsion was involved, that the authority of each state and the rights of individual operators under the laws of each state were unquestioned. The compact simply provided an agency for adjustment between the states on common problems of the industry for the benefit of the states, producers and consumers. It was essentially democratic.

On the other hand, there is equal danger that the self-satisfied position taken by many who feel the compact has made a substantial contribution to the stability of the industry in the past four years may render it impotent in the handling of pressing problems.

If the compact is to be continued something more is needed than holding quarterly meetings and discussion of general conditions without attempting to solve some of the pressing problems of the industry. It is not going to accomplish the job that will have to be done.

The point is stressed by those who do not want any change in the present setup that the pact is based on the prevention of physical waste. Has the compact done all that it could do in preventing physical waste?

Waste in the oil industry is essentially a technical problem, even more than an economic problem. Conservation cannot fully attain its objective as long as there are wide variations between states, and even between fields, in carrying on drilling and producing operations.

Among the problems requiring attention are the determination of the best operating practices to secure the largest ultimate recovery, the necessity for uniformity among the states, and regulation of well-spacing which is at the root of all conservation and proration problems.

Cases are cited in which a well is given a potential of 10,000 bbls. daily in one state which with the same information would not be rated as above a 1,000-bbl. well in another state with different methods.

Real conservation is certainly not being promoted if operators in one field are permitted to drill ten wells in an area when in another section only one well would be permitted to be drilled.

As President Axtell J. Byles of the American Petroleum Institute pointed out in Tulsa, this situation, if not remedied, will result in an overcapitalization of production comparable to that in marketing facilities.

These considerations are fundamental in any long range view of conservation and proration. A conservation program is no stronger than the soundness and fairness of the operating practices on which it is based.

The compact commission has the opportunity to step into the breach and perform a technical service which is not only authorized by the terms of the compact itself but is specifically ordered to be done.

Programs and Meetings

I.P.A.A. Annual Convention Program at Tulsa

The program for the ninth annual convention of the Independent Petroleum Association of America, to be held in Tulsa, follows:

Tuesday, October 18—Meeting of National Stripper Well Association.

TUESDAY EVENING, OCTOBER 18

7:00—Executive committee dinner and meeting.

WEDNESDAY MORNING, OCTOBER 19

Committee sessions, Mayo Hotel.

9:30—Meeting of membership committee. Ralph T. Zook, chairman; president, Sloan & Zook Co., Bradford, Pa.

9:30—Meeting of subcommittee on unnecessary and unprofitable drilling. R. A. King, chairman; president, King Oil Corp., Wichita Falls, Tex.

9:30—Meeting of domestic asphalt committee. T. M. Martin, chairman; vice president, Lion Oil Refining Co., El Dorado, Ark.

9:30—Meeting of committee on credentials, rules and order of business. C. A. Johnson, chairman; president, Holly Development Co., Los Angeles.

10:30—Meeting of committee on balance of supply with demand. H. B. Fell, chairman; executive vice president, I.P.A.A.

10:30—Meeting of committee on elimination of illegal production. Amos L. Beaty, chairman; Amos L. Beaty & Co., Inc., Houston, Tex.

10:30—Meeting of constitution and by-laws committee. John F. O'Donohoe, chairman; president, Petroleum Producers Co., Wichita Falls, Tex.

10:30—Meeting of public relations committee. Burdette Blue, chairman; president, Indian Territory Illuminating Oil Co., Bartlesville, Okla.

WEDNESDAY AFTERNOON, OCTOBER 19

2:00—Meeting of nominating committee. E. C. Moriarty, chairman; vice president, Derby Oil Co., Wichita, Kans.

2:00—Meeting of resolutions committee. Wirt Franklin, chairman; Franklin Oil Corp., Ardmore, Okla.

2:00—Meeting of activities committee. Winston P. Henry, chairman; president, Putnam Oil Co., Houston, Tex.

3:00—Meeting of tax policy committee. E. H. Moore, chairman; president, E. H. Moore, Inc., Tulsa.

3:00—Meeting of budget and finance committee. N. T. Gilbert, chairman; general manager, Midstates Oil Corp., Tulsa.

3:00—Meeting of royalty owners committee. James Hailey, chairman; president, Mid-Continent Royalty Owners Association, Tulsa.

5:30—Tea party.

THURSDAY MORNING, OCTOBER 20

8:00—Registration, mezzanine floor, Mayo Hotel.

9:00—General sessions, Ivory ballroom, mezzanine floor, Mayo Hotel.

9:00—Invocation. Reverend C. W. Kerr, First Presbyterian Church, Tulsa.

9:05—Address of welcome. Dr. T. A. Penney, mayor, Tulsa.

9:15—President's annual address. Charles F. Roeser, president, Independent Petroleum Association of America, Fort Worth, Tex.

9:45—Report of committee on credentials, rules, and order of business.

10:00—Annual report, "Cooperation and Stabilization." H. B. Fell, executive vice president, I.P.A.A., Ardmore, Okla.

10:20—Report of tax policy committee.

Report of committee on elimination of illegal production.

Report of domestic asphalt committee.

Report of activities committee.

12:30—Oil men's popular luncheon, Crystal ballroom, Mayo Hotel.

Address. Col. E. O. Thompson, Austin, Tex., chairman, Interstate Oil Compact Commission.

Orchestra and feature entertainment.

THURSDAY AFTERNOON, OCTOBER 20

2:15—Annual report. Russell B. Brown, general counsel, I.P.A.A., Washington, D. C.

2:45—Discussion.

3:00—Report of committee on balance of supply with demand.

Report of subcommittee on unnecessary and unprofitable drilling.

Address, "The Value of Recent Studies of the Bureau of Mines to the Oil Industry." R. A. Cattell, chief engineer, Oil and Natural Gas Division, U. S. Bureau of Mines.

8:00—Indian Cavalcade.

FRIDAY MORNING, OCTOBER 21

General session, Ivory ballroom, Mayo Hotel.

9:00—Report of public relations committee.

Report of membership committee.

Report of nominating committee.

Report of constitution and by-laws committee.

Report of resolutions committee.

12:30—Oil men's popular luncheon, Crystal ballroom, Mayo Hotel.

Address, "Viewpoints of the Brighter Side." H. G. Moock, vice president, Plymouth Motor Co., Detroit.

FRIDAY AFTERNOON, OCTOBER 21

2:15—Meeting of the board of directors.

Report of budget and finance committee.

Election of officers.

3:30—Meeting of the executive committee.

7:00—Annual banquet, Civic Coliseum.

Address. Donald R. Richberg, Washington, D. C.

Orchestra and entertainment.

W. Lee O'Daniel to Address Texas Mid-Continent Association

SAN ANTONIO, Tex. — Governor-nominate W. Lee O'Daniel has accepted an invitation to address the annual meeting of the Texas Mid-Continent Oil and Gas Association, to be held in San Antonio October 27 and 28, Al Buchanan, local chairman for the convention, announced.

The association's president, Charles P. McGaha, of Wichita Falls, is scheduled to speak on matters of vital interest not only to oil men but of concern to every Texas citizen. Committee reports will include state, local and federal taxation, theft prevention work, social security, simplification of and elimination of overlapping reports to state agencies. Tax matters will be discussed in detail at a special group session.

Entertainment in San Antonio is being handled by a special "Wildcat" committee headed by Al Buchanan, the association's vice president for Southwest Texas. The annual banquet will be on Friday night, October 28.

Officers of the Texas Mid-Continent Oil and Gas Association are Charles P. McGaha, president; George C. Gibbons, executive vice president; Eugene McElvaney, treasurer; vice presidents, H. R. Cullen, Gulf Coast; Bryan W. Payne, East Texas; H. R. Stroube, East Central Texas; P. F. Gwynn, North Texas; E. J. Dunigan, Jr., Panhandle; Harry Adams, West Texas; J. C. Hunter, West Central Texas; Al Buchanan, Southwest Texas.

CALENDAR

October

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, San Antonio, Tex., Oct. 5-7.

SOCIETY OF AUTOMOTIVE ENGINEERS, National Regional Fuels and Lubricants meeting, Tulsa, Oct. 6-7.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Minerals Division, Knoxville, Tenn., Oct. 6-8.

NATIONAL BITUMINOUS CONFERENCE, sponsored by W.P.R.A. and Montana and Mississippi Highway Department, Biloxi, Miss., Edgewater Beach Hotel, Oct. 10-13.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., Oct. 10-14.

NORTH AMERICAN GASOLINE TAX CONFERENCE, Tulsa, Oct. 10-14.

NATIONAL SAFETY CONGRESS, Chicago, Stevens Hotel, Oct. 10-14.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, fall convention, Hotel Severin, Indianapolis, Ind., Oct. 12-13.

MID-CONTINENT OIL AND GAS ASSOCIATION, Louisiana-Arkansas Division, annual membership meeting and annual meeting of executive committee, Shreveport, La., Oct. 14.

SOCIETY OF AUTOMOTIVE ENGINEERS, Aircraft Production meeting, Los Angeles, Ambassador Hotel, Oct. 13-15.

NATIONAL STRIPPER WELL ASSOCIATION, TULSA, Oct. 18.

INDEPENDENT PETROLEUM ASSOCIATION, Tulsa, Oct. 19-21.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Minerals and Petroleum divisions, Los Angeles, Oct. 20-21.

NATIONAL ASSOCIATION OF CREDIT MEN, Petroleum Refiners Division, Indianapolis, Ind., Oct. 24-26.

NATIONAL PETROLEUM ASSOCIATION, Department of Fire and Accident Prevention, Olean, N. Y., Oct. 26.

MID-CONTINENT OIL AND GAS ASSOCIATION, Texas Division, San Antonio, Oct. 27-29.

WESTERN PETROLEUM REFINERS ASSOCIATION, Washington-Youree Hotel, Shreveport, La., Oct. 28.

November

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, regional meeting, Tucson, Ariz., Nov. 1-5.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific Section, Los Angeles, Nov. 3-4.

KANSAS-OKLAHOMA division, Mid-Continent Oil and Gas Association, Tulsa, Nov. 4.

AMERICAN PETROLEUM INSTITUTE, annual meeting, Chicago, Stevens Hotel, Nov. 14-18.

December

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, Dec. 5-9.

February, 1939

NATIONAL ASPHALT CONFERENCE, Los Angeles, Calif., week of February 27.

March

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Oklahoma City, Okla., March 22-24.

Bargaining Association Formed By Indiana Plant Employes

An attempt is being made to bring together into one confederation all independent collective bargaining organizations within the Standard Oil Co. of Indiana. A meeting was held at Neodesha, Kans., last week, following previous meetings at Wood River, Ill., and Whiting, Ind.

The formation is being sponsored by the Standard Oil Employes Association of the Wood River refinery; the Standard Oil Employes Association of the general offices in Chicago; the Standard Oil Employes Association of the Whiting refinery; the Neodesha Refinery Employes Association, and the Refinery Employes Independent Union of the Sugar Creek, Mo., refinery. Most of the men belonging to these organizations feel that the independent union has a distinctive place to maintain in the labor movement.

By resolution the convention at Neodesha voted to release the following statement of principles for publication:

"1. We believe that all grievances arising in the industry can, and should, be adjusted in a peaceful and orderly manner by conciliation or arbitration, and pledge ourselves to attempt to settle industrial labor differences in such manner.

"2. We are against all sorts of employer coercion such as 'strikes' or 'sit-down' work stoppage. We are also against employe coercion by such means as 'lockouts' or similar weapons. But we reserve the right to use such means as are available should occasion require.

"3. This federation holds that employe affiliation with a labor organization is a matter of personal choice and holds that no personal coercion should be used to force an employe to become affiliated with any labor organization against his will or better judgment. Rather, it feels that the federation should be made so attractive to every employe that he may well afford and desire such affiliation.

"4. This federation feels that the management of the Standard Oil Co. (Indiana) has in the past attempted to deal fairly and equitably with all of its employes and has no reason to believe that such practices will not be continued.

"5. The federation holds for cooperation between the management and employes in establishing company policies affecting employes.

"6. The federation holds for democratic organization, not dominated by personalities or by the employer. This organization shall be open to any independent collective bargaining group within the Standard Oil Co. (Indiana) or its subsidiaries."

The organization was named "The Federation of Standard Oil Employes." Officers elected were as follows:

Chairman, Hugh Lowery, Wood River, Ill.; vice chairman, L. G. Harrison, Sugar Creek, Mo.; secretary-treasurer, Morris Mason, Wood River, Ill.; assistant secretary-treasurer, L. J. Catlin, Neodesha,, Kans.; vice chairmen, D. N. Fink, Neodesha, Kans., and A. M. McGuiggan, Wood River, Ill.

Directors: Arthur Keith and A. Singleton, of Sugar Creek, Mo., and J. M. Blankenship and Chas. A. Locke, of Wood River, Ill.

The next meeting of the executive board will be at Sugar Creek, Mo., on December 3. Thereafter the board will meet every three months, with the annual meeting in December of each year.

The following representatives of the Standard Pipe Line Co. attended as observers: Fred Dressen, Humbolt, Kans., and C. H. Schrader, Hulah, Okla.

The federation hopes "to have a standing as a bargaining agency for questions which under present arrangements cannot be effectively handled by any one of the local groups with their local managements. For example, the annuity plan is such a question at the present time. If management will grant recognition of this principle, it will be a real step forward in bargaining, and certainly ought to free us from any criticism under the Wagner Law, of trying to deliver our groups over to management domination. This also ties in cooperation in establishing company policies, which is a thing which has never been considered any of labor's business."

Salient points of the constitution of the federation follow:

Constitution

1. The name of this organization shall be The Federation of Standard Oil Employes.

2. The location of the headquarters office of the federation shall be established by the executive board.

3. The object of this organization is to bind together by charter into a single body all independent labor organizations within the Standard Oil Co. of Indiana or subsidiary companies. This federation to deal with the company management on questions of general interest

First row—A. M. McGuiggan, J. M. Blankenship, Charles A. Locke, L. G. Harrison, Hugh Lowery, Morris Mason, Arthur Keith, A. Singleton, C. H. Schrader. Second row—Ed Herndon, Ray Mills, C. A. Crumley, D. N. Fink, L. J. Catlin, Ira Krueger, W. C. Page, W. E. Stepp. Third row—C. L. Ray, Henry Streets, E. R. Taubeneck, A. H. Phillips

to all employe members. Questions of personal or plant interest to be handled by individual organizations. In case there is conflict of jurisdiction, the individual organization shall have preference.

(*a*) This federation is to provide its members with an organized method of dealing with the employer on wages, hours, and other terms or conditions of employment, and also the general welfare of the employes.

(*b*) The federation will also provide an organized method for settling grievances of a general nature affecting all employes, with the officials of the employer, according to a procedure to be mutually agreed upon by the representatives of this federation and the representatives of the employer.

(*c*) The federation itself is a means for each member to become acquainted with his fellow-workers, to learn the prevailing sentiment on questions of common interest to the members, and to present the views of the members to the employer in an organized way, and in return to receive information from the employer on matters of mutual interest.

(*d*) The federation will represent the members before the several legislative bodies and before the National Congress for the purpose of having legislation enacted favorable to the members.

(*e*) The federation will provide suitable legal talent to represent any member organization cited before the National Labor Relations Board or a consequent appeal to a federal court having jurisdiction.

(*f*) The federation will attempt to instill confidence between the management of the Standard Oil Co. of Indiana and the employes to the end that industrial peace shall prevail in the industry.

Principles of Organization

1. We believe that all grievances arising in the industry can and should be adjusted in a peaceful and orderly manner by conciliation or arbitration, and pledge ourselves to attempt to settle industrial labor differences in such manner.

2. We are against all sorts of employer coercion such as "strikes or "sit-down" work stoppage. We are also against employe coercion by such means as "lockouts" or similar weapons. But we reserve the right to use such means as are available should occasion require.

3. This federation holds that employe affiliation with a labor organization is a matter of personal choice and holds that no personal coercion should be used to force an employe to become affiliated with any labor organization against his will or better judgment: Rather, it feels that the federation should be made so attractive to every employe that he may well afford and desire such affiliation.

4. This federation feels that the management of the Standard Oil Co. of Indiana has in the past attempted to deal fairly and equitably with all of its employes and has no reason to believe that such practices will not be continued.

Membership

1. Membership of this federation shall consist of all members of independent organizations of employes of the Standard Oil Co. (Indiana) which shall have received a charter and become a part of this organization. A member must be an employe of the Standard Oil Co. (Indiana) or one of its subsidiary companies and must not be employed in a supervisory or administrative capacity.

2. All members of Standard Oil independent organizations shall be admitted to the federation only by a vote of the executive board, as specified in the by-laws, but the vote of at least 80 per cent of the entire executive board must be cast to constitute an election and three negative ballots shall exclude.

Management

1. The executive board shall be vested with the exercise of all the corporate powers of the federation, subject to the constitution. It shall make provision in by-laws for the duties of the several officers, and for the general administration of the affairs of the property of the federation. It shall make an annual report at the annual convention, transmitting therewith the report of the treasurer, and such other reports as it shall deem advisable.

2. Meetings of the executive board shall be held at the annual convention and at three-month intervals between the dates selected for the annual convention. A majority of the membership of the board shall constitute a quorum at any board meeting.

3. The executive board shall appoint from its members an executive committee consisting of the chairman and one member from each affiliate organization, which executive committee shall exercise at times when the executive board is not in session such part of the authority of the executive board in the administration of the federation affairs as may from time to time be delegated to it. But such executive committee shall not have power to amend the by-laws, elect or expel members, nor to fill vacancies in the executive board.

4. The executive committee shall be vested with the exercise of all powers of conciliation or arbitration of grievances of a general nature. But all decisions must be ratified by affiliate organizations of the federation.

(*a*) Agreements negotiated by the executive committee with the management of the Standard Oil Co. of Indiana when referred to the membership for ratification or rejection shall be voted on by secret ballot, and shall be an obligation of all members of the federation and shall be truly and faithfully adhered to by them.

(*b*) The type of agreements to be referred for ratification to be decided by the executive board but a petition containing 10 per cent of the membership can force a ratification election if presented to the executive board thirty (30) days following the posting of the agreement.

Gasoline Demand Maintained at Approximately 1937 Rate

The relatively favorable showing made by the petroleum industry to date this year despite generally depressed business conditions principally reflects the fact that demand for gasoline, the industry's principal product, has been running at approximately the same rate as last year when the all-time peak for gasoline consumption was reached, says Carl H. Pforzheimer & Co. This is in striking contrast with the sharp declines that have taken place in the demand for the products and services of other major industries.

Latest official figures for gasoline demand cover the first seven months of 1938 for which period the United States Bureau of Mines reported that indicated domestic demand for motor fuel totaled 292,228,000 bbls., a decrease of 0.8 per cent from the 294,434,000 bbls. reported for the corresponding period of last year. The decline of less than one per cent in domestic demand through July this year was largely due to the poor record of July, 1938, when, partly because of unseasonal weather, gasoline consumption in the United States declined 6 per cent from the same month a year earlier. Last July was the first time since 1933 that July demand failed to exceed that of June.

Exports of motor fuel this year have been running substantially above last year and for the first seven months of 1938 were reported to have totaled 28,194,000 bbls. or 39.5 per cent above the similar period last year. Total motor fuel demand, including exports, during the initial seven months this year increased 1.8 per cent over that of the like 1937 period. Continuation of this trend in subsequent months was indicated by the monthly forecasts of motor fuel demand prepared by the Bureau of Mines. In its forecasts for August and September the bureau estimated domestic motor fuel demand for those months at 1 per cent higher and 0.5 per cent lower, respectively, than in the corresponding months of 1937, while a gain of 1 per cent has been forecast for October. Since little change in the trend of gasoline consumption is anticipated during the balance of the year, it appears likely that total motor fuel demand this year may exceed all previous records.

	Indicated domestic motor fuel demand (barrels)		Exports of motor fuel (barrels)	
	1938	1937	1938	1937
January	35,176,000	33,696,000	3,090,000	2,978,000
February	31,861,000	32,000,000	3,931,000	2,640,000
March	41,259,000	40,561,000	3,562,000	2,426,000
April	43,254,000	43,409,000	4,474,000	2,787,000
May	44,911,000	45,484,000	4,576,000	3,333,000
June	48,293,000	48,580,000	4,284,000	3,085,000
July	47,474,000	50,704,000	4,277,000	2,962,000
August	*50,000,000	49,597,000	*4,500,000	3,771,000
September	*47,000,000	47,245,000	*4,400,000	4,456,000

*Forecasts of the United States Bureau of Mines.

Sustained gasoline consumption as well as moderate refinery activity has been reflected in a substantial decrease in stocks of finished and unfinished gasoline. From a peak of 93,192,000 bbls. in March, gasoline inventories declined to 68,605,000 bbls. as of September 24, 1938, according to figures prepared by the American Petroleum Institute. The latter figure is only 3,000,000 barrels higher than a year earlier as compared with a difference of almost 13,000,000 bbls. at the peak. An even more favorable comparison with last year would be effected by the end of October should the Bureau of Mines' estimate of a further reduction in gasoline stocks materialize this month. The bureau recently estimated that finished gasoline stocks would be reduced by about 1,900,000 bbls. this October whereas in October, 1937, motor fuel inventories increased.

A break-up of gasoline consumption by states is provided by figures compiled by the American Petroleum Institute from tax reports filed by wholesalers and dealers in the various states. According to these figures California was the largest consuming state during the first seven months of 1938, with its consumption slightly exceeding that in New York. The latter state, however, normally leads in annual consumption by surpassing that of California in the second half of the year.

Of the six largest consuming states, California, New York, Pennsylvania and Ohio showed declines, while Illinois and Texas reported increased consumption. Declines were also recorded in most of the New England and industrial states. Thirty-one states showed increases over the first seven months last year with the largest gains being registered in the agricultural states, namely, South Dakota, North Dakota, Iowa and Minnesota.

GASOLINE CONSUMPTION BY STATES

	First seven months 1938 gallons	First seven months 1937 gallons
Alabama	129,252,000	128,243,000
Arizona	59,245,000	59,268,000
Arkansas	90,873,000	91,287,000
California	1,002,716,000	1,010,656,000
Colorado	128,133,000	124,671,000
Connecticut	176,716,000	184,070,000
Delaware	31,479,000	31,347,000
District of Columbia	79,487,000	78,675,000
Florida	203,014,000	196,119,000
Georgia	190,930,000	188,657,000
Idaho	50,855,000	49,297,000
Illinois	746,807,000	732,212,000
Indiana	356,078,000	362,186,000
Iowa	301,694,000	282,388,000
Kansas	276,026,000	270,724,000
Kentucky	142,122,000	142,079,000
Louisiana	138,932,000	133,179,000
Maine	77,103,000	77,745,000
Maryland	153,266,000	151,621,000
Massachusetts	377,824,000	392,723,000
Michigan	581,593,000	629,777,000
Minnesota	292,008,000	274,838,000
Mississipi	107,878,000	106,927,000
Missouri	337,035,000	330,610,000
Montana	66,062,000	64,967,000
Nebraska	130,202,000	128,692,000
Nevada	20,812,000	20,011,000
New Hampshire	45,637,000	46,893,000
New Jersey	468,697,000	466,648,000
New Mexico	50,675,000	49,754,000
New York	1,002,383,000	1,025,057,000
North Carolina	223,440,000	217,696,000
North Dakota	71,391,000	65,542,000
Ohio	719,876,000	747,438,000
Oklahoma	223,200,000	221,580,000
Oregon	128,530,000	125,336,000
Pennsylvania	779,247,000	797,291,000
Rhode Island	66,719,000	69,779,000
South Carolina	110,063,000	107,345,000
South Dakota	74,012,000	63,859,000
Tennessee	157,438,000	151,595,000
Texas	728,864,000	693,915,000
Utah	51,242,000	50,348,000
Vermont	34,344,000	34,622,000
Virginia	196,763,000	192,134,000
Washington	189,625,000	185,592,000
West Virginia	105,663,000	110,883,000
Wisconsin	299,597,000	301,016,000
Wyoming	33,686,000	34,466,000

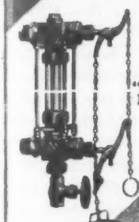
PENBERTHY REFLEX GAGE

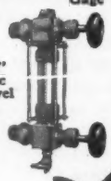
(LICENSED UNDER JERGUSON PATENT)

for Oil Field, Locomotive Type, and Marine Boilers

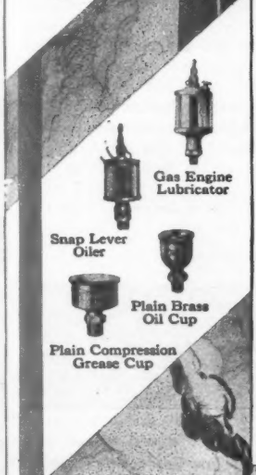
Automatic Injector

Ejector, Syphon or Jet Pump


"Navy Type" Liquid Level Gage


"Safeguard" Automatic Liquid Level Gage

"All-Iron" Automatic Liquid Level Gage



Gas Engine Lubricator

Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup

CROSS SECTION

THE STEAM SHOWS WHITE

THE WATER SHOWS BLACK

PENBERTHY PRODUCTS

• The Penberthy Reflex Gage shown here is recommended for working pressures to 350 lb. at 450°F. It is available in both Navy Bronze and Malleable Iron. Other Penberthy Reflex Gages are made in any length desired for higher pressures and for various kinds of liquids. Any leading oil well supply distributor will be pleased to quote upon your particular requirements.

PENBERTHY INJECTOR COMPANY *Manufacturers of* QUALITY PRODUCTS *Since 1886*
DETROIT, MICH. • *Canadian Plant,* Windsor, Ont.

Screw Plunger Grease Cup
Spring Compression Grease Cup
Automatic Electric Sump Pump
Automatic Cellar Drainer (Water or Steam Operated)
Dipless Air Cock

CLARE COUNTY

(Continued from Page 27)

a 4-inch line operated by Simrall Pipe Line Co. to tankcar loading racks at Lake George station. Simrall first trucked oil from the field and now McClanahan-Leonard Pipe Line Co. is offering to move oil by truck. Pure Transportation Co. has a 4-inch line leading north to the railroad siding at Temple. The price posted for this crude is $1.09½ per barrel at the well.

The derricks in the field are standard 87-foot steel rigs and gas or distillate is used for fuel. Concrete derrick leg posts are poured for the wells on inside locations. Some of the engines are set on permanent concrete mountings which can be used later for pumping engine foundations. The drilling time for the discovery well was about 50 days.

Pollution and brine disposal problems will not come until later as none of the wells are making water at this time. However, the thin pay and the proximity of salt water will bring up these problems as soon as edge wells are brought in or wells drilled too deep are allowed to flow wide open. Some of the area is farmed, but as the field spreads north it will extend into the wild lands of Houghton Lake State Forest. Here the pollution of streams must be guarded because there is danger of destroying the fish and game. This must also be considered in the vicinity of Windover Lake and Lake George which are well developed with resort property. In Sherman, Crystal and other Michigan fields the return of brine to the formation has been successful. The brine may be put into the producing formation in "off structure" wells or salt water disposal wells can be drilled to other porous horizons deeper in the Monroe. The use of dams and large collecting ponds is not considered practical by most major operators because they are subject to seepage and the banks may easily break down.

Some drilling locations must be cleared and lease roads built because of swampy terrain, underbrush, and second-growth timber. However, much of the land is sandy, making transportation easy once suitable roads are built. It is common in low swamp land to cut the brush and lay it for a corduroy type of road which is covered with sand. These roads are usable even in bad winter weather and because of the efficiency with which snow is removed from the main roads it is not likely development in Clare County will be greatly slowed down in the winter.

Structural Geology

The main structural trend across Clare County on which the Freeman-Redding field is located is shown on the regional contour map. This line of folding takes an apparently sinuous course across Grant, Lincoln, Freeman, Redding, and Winterfield townships and there are several flat places along the plunge of the axis where closures and consequent oil accumulations may occur. The regional dip is generally southeast, but the area being centrally located in the basin makes regional dip a rather uncertain factor. As pointed out in the previous article (The Oil and Gas Journal, September 15), the plunge of the structural trends in this county is southeast as compared with the northwest plunge of the trends in Midland and Isabella counties.

The main Porter-Greendale-Vernon axis on which early Central Michigan fields were found seems to terminate south of Farwell. The long anticlinal axis across western Clare County is a prolongation of the structure in Wise Township, Isabella County, on which a discovery was made this fall. It is joined by a northeast saddle from the north part of the Vernon pool, but in southern Clare County it is actually a separate trend from that line of folding.

Present evidence suggests four possible closures in Grant, Lincoln, Freeman-Redding, and Winterfield townships, but there are probably more. Two deep wells have been drilled on the Grant Township closure, one in Section 25, Grant Township, and the other in Section 6, Wise Township, Isabella County. Neither of these had Dundee or Monroe showings of oil and gas, but they may have been somewhat east and northeast of the highest part of the anticline. It also may be possible that production here will be on the northwest flank of the structure as was the case in the Vernon pool to the south.

Lincoln Township

The Lincoln Township area still shows promise for a commercial oil pool as indicated by the structural contours. The showings in Gulf Refining Co. No. 1 Ann Arbor Railroad, in Section 21, and the reversal from the well in Section 18 toward this well are both favorable indications. The interpretation on the map is that the closure lies to the southeast of this test. However, there is also the possibility the eastward swing of the axis from Windover Lake toward Lake George might throw the area of production to the north of this well instead of to the south.

The Freeman-Redding closure is still undefined, but from the Pure well to the north and McClanahan high dry hole to the south of the discovery there is some merit to the supposition that it will cover considerable area. The amount of structural relief is not large, but the way the trend broadens out to the north would indicate that the top of the anticline would be wide. One hypothesis worth considering is that this closure was developed through the intersection of the Vernon axis with the Wise axis, of which this structural trend is a prolongation. If one projects the Vernon axis northward it intersects the western Clare County axis along a line from Windover Lake to Temple. The apparent northward change in direction of the western Clare County fold north of Windover Lake conforms more closely to the Vernon trend than to the Wise trend.

The broad terrace in Winterfield Township probably consists of several closures that are arranged en echelon, but the lack of control from deep wells in this district makes any exact interpretation impossible. Extensive test well drilling to the Marshall has been carried on in the region and several of these wells have been reported to show gas in the "stray." The acreage is almost completely leased and the land is closely held by major companies. As the "play" in Redding Township spreads to the north this large undeveloped area will soon come into its own.

The structure in northeastern Clare County has been developed entirely by Sun Oil Co. A closure has been quite definitely shown in eastern Hamilton Township and in the adjoining part of Gladwin County where a well is now being drilled. The former tests in this region have found reversal in dip but oil showings have been absent. This locality is about where the northward prolongations of the Beaverton and Buckeye structural axes would intersect.

The direction of the northwest extension of this trend as indicated on the map is strictly hypothetical. It might be possible for this fold to swing to the west from northern Hamilton Township before extending northwest, as is the case with the western Clare County fold in the vicinity of Lake George. The absence of deep tests for structural control in Frost and Franklin townships, as well as in that part of southern Roscommon County to the north makes even an approximate placement of this trend a question of considerable conjecture. Geophysical work with gravimeter and possibly with other devices has been carried on, but only future drilling will reveal the results of these studies. However, as a pattern is worked out for the high in northwestern Clare County a clearer understanding of this trend will also be available.

It can be observed from the map that contours have been drawn on the base of the Bell shale. The reason for this is the ever-present question in this area of whether the drill goes out of the Bell shale into the Dundee formation or into the Monroe beds. Most geologists in Michigan are satisfied that erosion beneath the pre-Bell unconformity in the district north and west of Mount Pleasant has cut out much of the Dundee, and in some areas removed all of it so that the Bell shale rests directly on the Monroe. For instance, in the Fereman-Redding field the penetration to water thus far has been 9, 14, aud 63 feet. Some wells have had limestone beneath the Bell shale and others have found nothing but dolomite. No definite criteria have been developed for distinguishing between Dundee and Monroe in well-cuttings except small differences in texture and the fact that the former is predominantly limestone and the latter is predominantly dolomite. Because of this situation, it is difficult to determine just where in the section a well penetrates the Dundee or just how much of the Monroe has been removed by erosion.

The question is, therefore, how much is accumulation due to folding as indicated on the base of the Bell and how much is it due to the wedging out of Monroe strata beneath the unconformity. Some have attempted to take care of this situation by contouring the first water beneath the Bell, but even with this procedure a doubt exists about the water always being in the same horizon. As yet the problem of what is the true structural picture is far from solved. An effort must be made to solve the unorthodox accumulations when they occur by evaluating the effects of the unconformity with respect to individual surrounding circumstances.

Ouster Suit Compromise Is Suggested by Texas Court

AUSTIN, Tex.—A conference looking toward compromise was agreed upon by state and defense attorneys in Texas' $17,000,000 suit against 15 major oil associations charged with violating state antitrust laws. District Judge J. D. Moore suggested a compromise after the defense had requested a continuance.

Judge Moore said it might be possible to reach an agreement and avoid renewal of the legal conflict which would be expensive and probably extend over several months. He suggested the defendants might pay the court costs and possibly make some restitution for violations charged by the state.

Obituaries

MELVILLE D. SANFORD, 62, former Tulsa oil man and one-time associate of the late George W. Snedden, died recently in San Bernardino, Calif. He was at one period treasurer of Cosden Oil & Gas Co.

P. B. FLYNN, Wichita Falls, Tex., oil operator, died September 30, following an emergency operation. He helped organize the North Texas Oil and Gas Association and was its first president. He was a member of the American Petroleum Institute and the Independent Petroleum Association of America. Born 50 years ago in Pennsylvania, he moved to Wichita Falls in 1927.

STATE CAPITALS

TEXAS

RAILROAD COMMISSION OF TEXAS granted an increase of 3,218 bbls. in the daily allowable production of the Plymouth field in San Patricio County in order to meet a demand in foreign contracts.

Production of Plymouth was raised from 13,305 to 16,523 bbls. daily, retroactive to September 16, so producers could fill contracts with Italian and French purchasers requiring approximately 460,000 bbls. monthly.

The commission in another order directed owners of East Texas wells incapable of making their allowable, pumping wells, wells making water, and those using air-gas lift to file by October 15 a status of the wells during October 1-15.

The October, 1937, order regulating tank clearing and plants processing tank bottoms in East Texas was amended to further define the taking of samples.

THE THIRD COURT OF CIVIL APPEALS sitting at Austin sustained the Travis County District Court ruling that the Railroad Commission of Texas has power to issue an oil well drilling permit to the record owner of land although title to the land may be in dispute. Shell Petroleum Corp. and Rowan & Nichols of Fort Worth had claimed that a commission order granting a permit to R. M. Wood for a well on a one-acre tract in Gregg County as an exception to the general rule, was unjust and unreasonable.

A HEARING ON WATER-FLOODING of wells in North Texas was given the Bell Oil & Gas Co. by the commission. The company has a 40-acre property in Wichita County which produces an average of 3 bbls. of oil per day. The company hopes that by flooding it may be able to flush out 1,000 bbls. of oil per acre in three years.

GLENN H. McCARTHY asked the commission for an increase in the allowable of the West Beaumont field in order that foreign oil demand might be met, claiming contracts for 250,000 bbls. of oil for shipment to Italy and France, delivery to spread over several months.

LOUISIANA

LOUISIANA DEPARTMENT OF CONSERVATION held an open hearing at Baton Rouge, September 29, to hear testimony relative to orders for development and production of the Cotton Valley and Shongaloo fields of Webster Parish, and the Carterville area of Webster and Bossier parishes.

Cotton Valley matters occupied most of the attention. It was generally agreed among operators that the 80-acre spacing rule, ordered for development of the lower Marine gas and distillate production, should be extended to apply to the circular area around the field which has tentatively been proven for oil production in the same horizon.

Various methods of prorating the oil production were discussed. The classification of all producing sands in the lower Marine section, from the "A" sand down to and including the Bodcaw sand, principal producing horizon, was also suggested. A report was made on preliminary work investigating a recycling and pressure-maintenance program to apply to the entire field.

Shongaloo spacing for wells in the deep gas-distillate sand, discovered several weeks ago by the Magnolia Petroleum Co., was asked to be set at 160 acres. The conservation body is taking all suggestions and reports under advisement.

The Lisbon field of Claiborne and Lincoln parishes will be granted a decreased allowable in October, following the cut in pipe line runs by the principal purchaser in the field, Caddo Crude Oil Purchasing Co. The new allowable as set by the Department of Conservation of the State of Louisiana will be 6,000 bbls. daily.

CALIFORNIA

NO CHANGE WAS MADE in California's allowable daily production in October at the regular monthly meeting of the Central Committee of California Oil Producers. The committee has for several months set the allowable at 610,000 bbls. per day with the specific provisions that the output must not exceed 615,000 bbls. This provides Umpire Pemberton with an allowable of 5,000 bbls. per day to take care of unexpected completions or wells that come into production ahead of schedule. The fact that production and consumption were practically in balance during the month of August made it advisable to allow the state's allowable to remain unchanged during October in the hope that consumption of fuel oil might increase and thus improve the outlook. The Lake View section of the Midway-Sunset field made a welcome contribution to curtailment last month by adopting the practice of shutting down all production activities for 12 days each month instead of 10 days, as has been followed for several months past. The new program provides that all wells in that area shall be shut down the last two days of each month and the first 10 days of the succeeding month. In the Rosecrans field operators arbitrarily reduced the permissible maximum flow from 800 bbls. per day to 700 bbls. for all wells in the so-called competitive area which includes leases that have wells producing on adjacent lease lines. Interior wells, those located so that drainage is a negligible factor, are permitted to produce not to exceed 300 bbls. per day.

KANSAS

KANSAS CORPORATION COMMISSION mailed about 1,600 copies of the state's revised oil and gas conservation rules, effective October 1, to producers and purchasers.

The rules provide several changes from former regulations, including measurement of oil well potentials in an eight-hour gauge instead of two split four-hour gauges. The composite withdrawal decline curve, for calculation of declining potentials in months between actual physical tests, is retained.

The new rules were adopted following conferences with representatives of interested operators.

OKLAHOMA

OKLAHOMA CORPORATION COMMISSION made no change in the allowable production in October, and it will stay at 428,000 bbls. per day.

Sinclair Prairie Oil Co. was granted permission to repressure by water-flooding the oil and gas sands on several of its leases in the Nowata and Rogers district in northeastern Oklahoma. The properties are in Sections 25-25-16, 36-25-16, 32-25-17, 31-25-17 and 6-24-17.

The ILLINOIS BASIN ISSUE

off the press October 27

with 34x28 Illinois Basin Oil Map in FOUR Colors

THE MAP locates the more than 75 fields in the basin, and shows pipe-line systems, refineries, and natural-gasoline plants.

DRILLING PRACTICES on the 300 active tests in southern Illinois, Southwest Indiana, and western Kentucky are clearly portrayed in specially prepared articles.

FIELD PERSONNEL is covered by a complete directory listing independent operators and the employes of oil companies on duty in this territory.

PRODUCTION METHODS on the 1,000 new wells in the Illinois basin are capably described, with emphasis on latest practical developments.

NEW FIELD SERVICE presents complete information on the "hot spots" for those who need all the facts in compact form. GEOLOGY AND GEOPHYSICS as applied in the Illinois basin are surveyed by Dr. A. H. Bell and other contributors of similarly high standing.

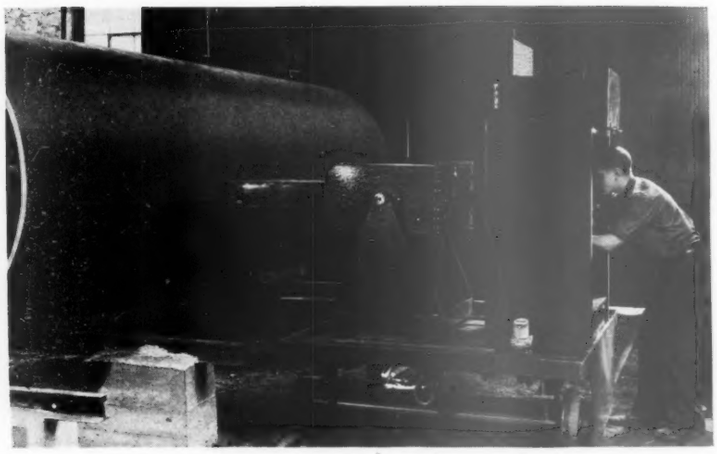
The ILLINOIS BASIN ISSUE, with map, brings your knowledge of that area right up to the minute. Your paid subscription for one year or six months, mailed to the Journal's office at Tulsa, is your best insurance against missing this remarkable number!

WHY FARRAR & TREFTS *Fusion Welded* BOILERS

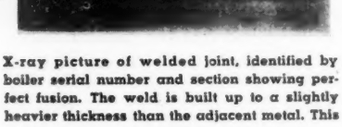
are Stronger and Safer

WELDING INSURES STRENGTH
INSPECTION INSURES SAFETY

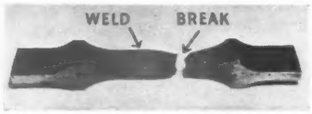
In the construction of every F & T fusion welded boiler, the most modern methods of scientific testing are utilized to inspect all welds. Coupon samples are subjected to six physical tests, and the weld itself examined radiographically to show complete penetration and fusion of the parent metal.



▲ Looking through steel! Inspectors working behind heavy shields examine the welds with X-ray equipment and would immediately detect any imperfection. Every F & T boiler is radiographed and the pictures kept in a permanent file. Copies are available to customers upon request.

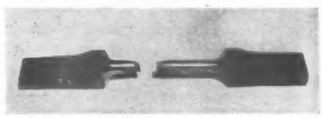


X-ray picture of welded joint, identified by boiler serial number and section showing perfect fusion. The weld is built up to a slightly heavier thickness than the adjacent metal. This causes the X-rays to penetrate slower, showing the weld to be darker than the adjoining boiler plate in this photograph.



BREAK TEST

A section of an F & T welded joint pulled apart to prove that the weld is stronger than the boiler plate itself.



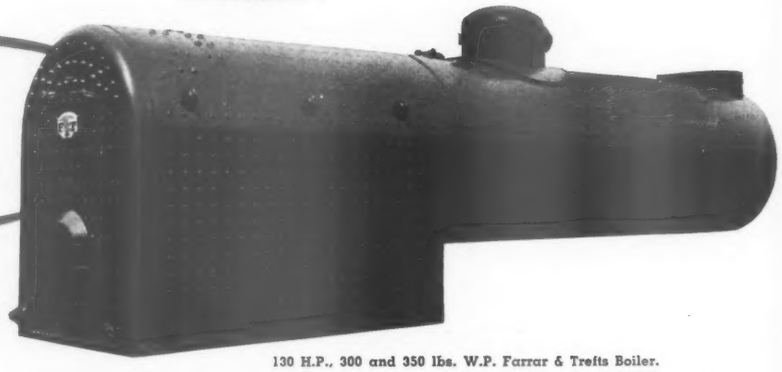
TENSILE TEST

Section of all welded metal pulled apart shows tensile strength of weld far in excess of tensile strength of boiler plate.

BEND TEST

This section was bent cold on the weld without even the slightest microscopic fracture—proof of ductility.

F & T Boilers with fusion welded barrel, dome and inside firebox joints are carried in stock for immediate shipment. The newly developed all welded F & T boilers are available on special order. Welded construction offers the modern streamlined design; is safe, sturdy and smooth, inside and out. It affords easier cleaning and lighter weight.



130 H.P., 300 and 350 lbs. W.P. Farrar & Trefts Boiler. Firebox welded in one piece, 98" long. LOW DOME with steam outlet on side.

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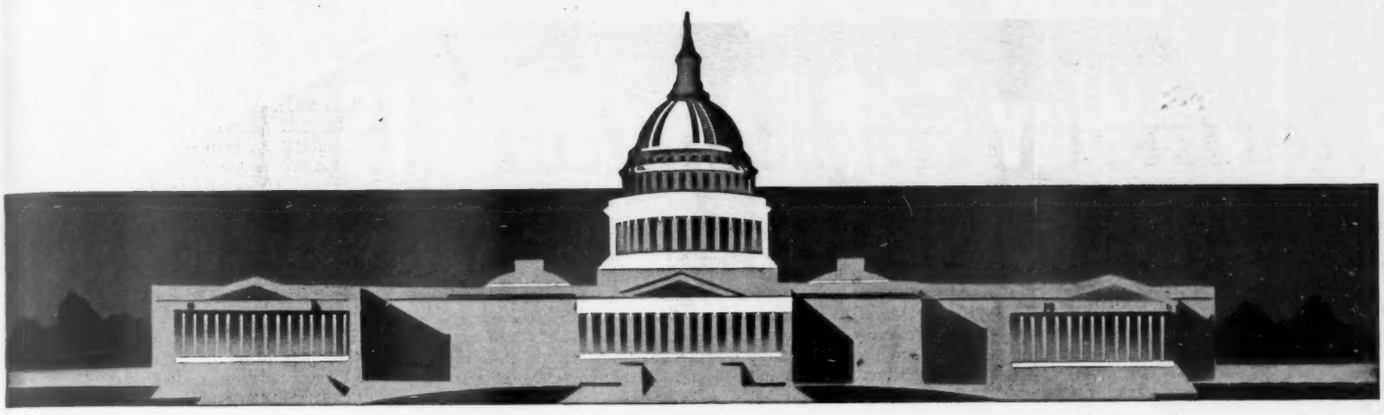


I. C. C. Regulation of Trucks Is Questioned by Institute

By HENRY D. RALPH

WASHINGTON, D. C., Oct. 3.—The extent to which the Interstate Commerce Commission can and should regulate detailed operation of motor trucks—particularly trucks privately owned and operated by oil and other companies—may be decided in three cases now coming to a head as the result of a series of developments during the past few weeks.

The commission's jurisdiction over private trucks comes about through its power to promote safety on the highways and is proposed to be applied specifically through two sets of regulations, one covering hours of service of employes, and the other pertaining to the transportation of explosives and other dangerous articles. In addition, the commission has set standards for safety of equipment, such as brakes and lights, and is considering regulations on weights and sizes.

While the Motor Carrier Act is concerned primarily with common and contract carriers, Section 204 (*a*) (3) gives the commission power to establish reasonable requirements for private carriers of property by motor vehicle to promote safety of operation "if need therefore is found." It is this section which promises to be the bone of contention.

The I.C.C. has promulgated regulations for maximum hours of service of common and contract motor carrier employes (Ex Parte MC-2) which were scheduled to go into effect October 1, but which last week were postponed until December 31 and further hearings ordered. It also has pending (Ex Parte MC-3) a proposal to prescribe qualifications and maximum hours of service of employes and standards of equipment for private carriers. On September 9 it published proposed regulations covering the transportation of explosives and other dangerous articles by motor vehicle (Ex Parte MC-13) and scheduled hearings during October at which it asked testimony on the application of these regulations to privately owned trucks as well as to common and contract carriers.

The latest development is a petition filed September 29 by the American Petroleum Institute asking the I.C.C. to separate from MC-13 the question of applying the proposed regulations to private trucks and to combine this question with MC-3 for consolidated hearings on all types of safety regulations for private trucks. This petition is expected to be reinforced by similar requests from shippers of chemicals, compressed air, explosives, and other commodities. An early ruling is anticipated since the first hearing on MC-13 is scheduled for October 10 in Los Angeles, with others on October 17 in Tulsa and October 26 in Washington.

The A.P.I. petition, filed on behalf of its central committee on automotive transportation through Fayette B. Dow and Harry S. Elkins, Washington attorneys, states that it is desirable the question of applying various sorts of safety regulations to private carriers should be considered at one time rather than in separate cases. Because the petroleum traffic experts will be occupied with hearings on pipe line rates and charges, it is asked that the entire matter of private truck regulation be not considered before January. No hearings have yet been scheduled in MC-3.

The importance of this petition rests on the fact that in announcing its proposed rules for carriage of dangerous articles in MC-13, the I.C.C. inserted in the regulations a provision that whatever trucks are subjected to the regulations, whether common, contract, or private carriers, shall also be bound by all other motor carrier safety regulations issued by the commission. This means that if, in MC-13, the commission finds that privately owned oil trucks should be governed by the regulations for handling dangerous articles, these trucks will also be governed by the regulations established for common and contract carriers covering such things as qualifications of drivers, hours of service, safety of equipment, reporting accidents, obtaining I.C.C. license plates, and limitations on size and weight. This would mean that oil company trucks hauling articles not classed as dangerous, such as oil well supplies and crude and lubricating oil of high flash-point, would not be subject to many I.C.C. safety regulations for many months or perhaps never, while those hauling dangerous articles would be subject to all of them. Also oil company trucks handling gasoline and other articles on the "dangerous" list would be subject to much more regulation than private trucks handling other commodities, at least until the commission should order all private trucks to comply with all safety regulations.

The unfairness of applying safety regulations to certain private trucks and not to others is stressed in the A.P.I. petition, which declares that the need, if need therefor be found, for reasonable safety requirements for private trucks may be measured by comparison with certain standards in construction, maintenance and operation of motor vehicles of each and all types. "If the construction, maintenance and operation of its motor vehicles is below proper standards, the deficiencies should be ascertained in an investigation into the need for reasonable regulation of all types or uses of motor vehicles of the industry. It should not be subjected to the possibility of as many investigations to determine needs as there are types or uses of its motor vehicles. Investigations to find a need instituted from time to time and the occasional establishment and application of additional or supplemental codes of rules and regulations as needs may be found would impose needless and onerous burdens upon the industry."

While this question of applying safety regulations to private trucks is thus up in the air, the I.C.C. has reopened its docket MC-2 which prescribes maximum hours of service for employes of common and contract carriers. This was done September 27 on application of several groups of truck owners, including the Midwest Oil Field Carriers Bureau, the Mid-Continent Oil Field Haulers Conference, and the Oil Field Haulers Division of the Texas Motor Transportation Association. The effective date of the regulations has been postponed until December 31, and further hearings will be held before Examiner R. W. Snow at the Sherman Hotel, Chicago, beginning November 4. The various trucking interests which joined in asking this rehearing contended the final regulations were considerably different from the proposals on which original hearings were held and that they should have been issued as a proposed report in order that testimony could be presented on all details.

Many objections were raised by the truckers against the hours of service regulations, particularly regarding the complicated detail called for in the log which all drivers would be required to keep, and the requirement that drivers not be at the wheel more than 10 hours per day with stops of less than 20 minutes each counted as driving time. The regulations would force the abandonment of many types of operations, it was said, and would defeat the safety objectives.

Refinery Expansion

Refiners Division Credit Men To Meet at Indianapolis

The Petroleum Refiners Division of the National Association of Credit Men will hold its annual conference at the Indianapolis Athletic Club, Indianapolis, Ind., on October 24, 25, and 26. These conferences are

E. R. SILER

usually attended by the top credit executives of the industry. E. R. Siler, Socony-Vacuum Oil Co., Inc., St. Louis, Mo., is chairman of the board of governors.

On October 24, Carl Wilde, bankruptcy referee, will speak on the ramifications of the new Chandler Bankruptcy Act, which went into effect on September 22. On October 25, Henry Heimann, of New York, executive manager of the National Association of Credit Men, will speak at a dinner at the Indianapolis Columbia Club, to which other local business organizations will be invited.

The rest of the program will be on a "Directed Discussion" basis on all phases of credit policies, practices and procedures. Jobber, dealer and lessee-dealers will feature one day; household consumer, industrial and farm accounts another, with credit cards and the National Credit Card Survey results on still another.

The Tulsa Chamber of Commerce has invited the conference to meet in Tulsa next year.

Reverse Original Decisions in Jenkins Suit Against Sinclair

The U. S. Circuit Court of Appeals has reversed the decision of the Maine District Court in the case of the Jenkins Petroleum Process Co. against Sinclair Refining Co., which involved a judgment of $2,000,000 against the Sinclair company.

The District Court's judgment was vacated, the verdict set aside and a new trial granted, and the case remanded to the District Court for further proceedings not inconsistent with the appeals court's decision. Opinion on the appeal was returned under date of September 27, 1938. The original suit and appeal involved use of vertical tubes and a balanced stuffing box in construction of a cracking still by E. W. Isom. The plaintiff contended that the original Jenkins still suggested the use of such equipment to Mr. Isom.

Concluding a lengthy opinion in this case, which originated in 1921, the Circuit Court of Appeals said:

"Taking all the evidence in its most favorable aspect for the plaintiff, we think there is no support in the record for the verdict" against the Sinclair company.

The opinion was based on the finding that Mr. Isom, vice president of Sinclair Refining Co., was an expert engineer at the time he first investigated the Jenkins process on instructions from his father, W. H. Isom, then president of the Cudahy Refining Co., and that the vertical tubes and balanced stuffing box were suggested by his knowledge of the prior art.

Location of New Kansas Refinery Not Yet Determined

The Consumers Cooperation Association, North Kansas City, Mo., has not decided definitely on the location of the new 3,000-bbl. refinery which is to be built somewhere in the northwestern part of Kansas. Howard A. Cowden, president, stated that if this refinery proves to be profitable, the association might consider operating in the vicinity of Great Bend.

Alco-Gyro Exclusive Sales Contract Terminated

American Locomotive Co. announced that its arrangement with the Gyro Process Co., whereunder it acted as exclusive agent for the sale of licenses licensing the Gyro cracking process has been terminated. This exclusive agency, which was originally granted to Alco Products, Inc., a subsidiary of American Locomotive Co., has, since the take-over of the assets of said subsidiary, been conducted by the Alco Products division of the American Locomotive Co.

Alco Products will now supply, in addition to its regular line of refinery equipment, any and all types of petroleum cracking equipment.

Barnsdall Refining Corp. Will Close Its Barnsdall, Okla., Plant

At least 4,000 bbls. of northern Oklahoma crude oil daily will be thrown on the market on October 15, on which date the Barnsdall Refining Corp. will close its plant at Barnsdall, Okla. The Barnsdall Oil Co., which sells some of its own production to the Barnsdall Refining Corp., and gathers oil through its lines for delivery to the Barnsdall plant, will discontinue as a purchaser of crude oil in Osage County, Oklahoma, at 7 a.m. on October 15. Low prices for refined products is given as the cause of the discontinuance of operations. The Barnsdall Refining Corp. has two active plants of 5,000 bbls. capacity each, one at Wichita, Kans., and the other at Corpus Christi, Tex.

Cracking Patents Studied

A comprehensive treatise on the subject of cracking patents has been prepared by Davis McKnight, Jr., entitled, "A Study of Patents on Petroleum Cracking." It is published by the University of Texas, price $3. The book includes a catalog of cracking patents. The author has discussed various points arising in cracking patent disputes. He takes the assumption that technical aspects should be thoroughly considered when efforts are made to settle questions of legal status.

Natural Gas News

A.G.A.E.M. Annual Meeting At Atlantic City, October 10

The third annual meeting of the Association of Gas Appliance and Equipment Manufacturers will take place in Atlantic City, N. J., at the Hotel Claridge on Monday, October 10, according to an announcement made from the national headquarters of the association in New York.

The principal event of the gathering of the gas industry's manufacturers will be the election of new officers and members of the board of directors for the fiscal year 1938-39.

In addition to the main general session, there will also be meetings of the association's various divisions. These in turn will hold elections of officers for their respective groups.

Merrill N. Davis, executive vice president of the S. R. Dresser Manufacturing Co. of Bradford, Pa., is president of the association.

Operations in New York and Pennsylvania Gas Fields

COUDERSPORT, Pa., Oct. 3.—Among the wells completed during the past week in the New York-Pennsylvania deep sand gas fields, one was a fair producer, another had a show of gas in the Newburg and the third flooded out with salt water.

Empire Producing Co. completed its test on the Floyd Wilson farm in Willing Township, Allegany County, as a gasser with an initial open flow of 3,400,000 feet per day. It topped the Oriskany sand at 4,904 feet and was completed at a total depth of 4,919 feet and had a rock pressure of 1,950 pounds per square inch.

Belmont Quadrangle drilled into the Oriskany at 4,915 feet on the A. H. Billings farm, Independence Township, Allegany County, and got a show of gas gauging 150,000 feet at 4,917 feet. At 4,918 feet, however, a strong flow of salt water was encountered that filled the hole up 700 feet overnight. This well will be plugged and abandoned.

Updegraph's wildcat on the O. E. Erickson farm in Elk Township, Warren County, tested the deep Newburg sand for the first time in that area and found a show of gas gauging 20,000 feet. It was shot but the shot failed to increase the flow and the well will be abandoned.

Penn York struck a flow of gas gauging 1,700,000 feet on the Cyrus Wilson farm but it was accompanied by water and this well is now shut down at 4,910 feet. The sand was topped at 4,900 feet and the first gas show encountered at 4,908½ feet.

Natural Gas Department, A.G.A. Nominations for 1938-1939

George E. Welker, Jr., chairman; John B. Tonkin and William Moeller, Jr., nominating committee of the Natural Gas Department of the American Gas Association, report the following nominations for 1938-1939:

For chairman, Thomas R. Weymouth, Columbia Gas & Electric Corp., New York; vice chairman, Elmer F. Schmidt, Lone Star Gas Co., Dallas, Tex.

For new members of the managing committee (two years), F. H. Lerch, Jr., Interstate Natural Gas Co., Inc., New York; H. R. Straight, Cities Service Gas Co., Bartlesville, Okla.; J. French Robinson, Peoples Natural Gas Co., Pittsburgh, Pa.; Floyd C. Brown, Natural Gas Pipe Line Co. of America, Chicago; Joseph Bowes, Oklahoma Natural Gas Co., Tulsa; R. E. Fisher, Pacific Gas & Electric Co., San Francisco.

For new member to replace Elmer F. Schmidt, Walter C. Beckjord, Columbia Gas & Electric Corp., New York.

For members to serve one year, A. F. Bridge, Southern Counties Gas Co., Los Angeles; Frank H. Brooks, Peoples Natural Gas Co., Omaha, Neb.; Harry D. Hancock, Gas Advisers, Inc., New York; Burt R. Bay, Northern Natural Gas Co., Omaha, Neb.; Ralph E. Wertz, Amarillo Gas Co., Amarillo, Tex.

Pipe Line Activity

Bell to Build Gasoline Line To Burkburnett, Texas

Bell Oil & Gas Co., of Grandfield, Okla., which operates a refinery with Dubbs cracking units, and has recently been completing various improvements at the refinery including reforming still, has started to build a gasoline pipe line from Grandfield, south across the Red River to a point adjacent to Burkburnett, Tex., at which point a gasoline terminal will be built to store the products shipped from Oklahoma into the Texas markets. The Bell refinery operates mostly on Texas crude, having a gathering system through the North Texas area and purchasing some 3,000 bbls. of Texas crude.

At the gasoline terminal, dock shipments will be received from the refinery of red Ethyl gasoline, bronze regular leaded gasoline, and white Bell gas, a motor gasoline. From this terminal transports will deliver the gasoline to the jobbers and filling stations within an area of 150 miles.

Bell also handles the output of Premier Refineries at Longview, (Willow Springs) Texas, where tankcar and truck shipments are made to Texas jobbers.

Kansas Pipe Line & Gas Co. Puts McGee in Charge of Operations

Reece E. McGee of Blackwell, Okla., has been appointed executive vice president in charge of operations of the Kansas Pipe Line & Gas Co. with headquarters at Phillipsburg, Kans., effective October 1. Mr. McGee is also president of the Aksarben Natural Gas Co., which distributes natural gas in a number of central southern Nebraska towns, with headquarters at Oxford, Neb.

Oklahoma Pipe Line Company System in Illinois Field

The Oklahoma Pipe Line Co. has entered Illinois as a common carrier of crude oil with the completion of its gathering and delivery system in the Louden area in Fayette County.

A central collecting or gathering station is located in Section 20-8n-3e, and is served by an 8-inch gravity line approximately 5½ miles long extending in a northeasterly direction to Section 12-8n-3e. Approximately 10 miles of 4-inch lateral lease lines are in use at the present time connecting the lease tanks with the main gravity system. Three portable pumping units have been installed to gather oil that is not accessible to the gravity system.

The pump station consists of one pumping unit with a maximum capacity of 12,000 bbls. per day, housed in a portable steel building set on concrete foundation. The pumping unit is of the portable type powered by a high-speed Diesel engine driving the 7 by 10 horizontal duplex piston pattern pump through a V-belt drive.

The oil is delivered into Oklahoma Pipe Line Co. 10,000-bbl. delivery tank located on the Illinois Pipe Line Co. Brownstown station site in Section 35-7n-2e, through a 6-inch discharge line, 8.68 miles long. Oil is being run from approximately 50 wells at this time and plans are being made for the extension of the present gathering system in order to serve the rapidly expanding field.

Contract Let for Line From Salem to Lawrenceville, Ill.

Contract was awarded to Williams Brothers, Tulsa, for the laying of 35 miles of 10-inch and 38 miles of 8-inch pipe for the Central States Pipe Line Co., a subsidiary of Texas Co. in Illinois. The line will start in the Salem field, otherwise known as the Lake Centralia field, in Marion County, Illinois, and will run about 73 miles nearly due east to the Indian Refining Co. at Lawrenceville near the Illinois-Indiana state line. New pipe will be used and electric welded. The larger diameter pipe is to be at the refinery end of the system. Only one pump station will be used for the present and will be located at the oil field end of the line.

Texas Co. discovered this oil field this summer and has a large block of acreage and at this time has completed 32 wells and it is estimated the combined capacity will be about 10,000 bbls. daily. The line will have a much greater capacity than 10,000 bbls. and other oil will be handled as developed and tendered. At present the only outlet from this pool is through a 4-inch line connecting with Illinois Pipe Line Co. at Sandoval, Ill. Illinois Pipe Line Co. has been delivering the oil to Indian Refining Co. in a rather round about way and the new line will eliminate distance through which the oil has to be transported.

Work on the job will be started about October 5 and it is expected to have the line completed in about 45 days if no complications arise to slow up the work. Guy Connors, vice president of Williams Brothers Co., will be in charge of the work.

Gas Line Suspension Bridge Near Hollis Being Pushed

Lone Star Gas Co.'s new gas suspension bridge to carry its line from the Texas Panhandle over the Salt Fork of Red River, is being pushed to completion. This link in the company's service is about 12 miles north of Hollis, Okla., and replaces a structure destroyed in last spring's flood.

Jacob B. Price, district manager for Community Natural Gas Co., said this bridge supports an 18-inch gas line from the Panhandle field to serve Wichita Falls and other towns and cities in that area. Mr. Price said it is similar to the bridges at Byers crossing the Red River and west of Fort Worth crossing the Brazos.

Concrete for the anchors has been poured, the main piers are nearing completion and it is expected the bridge will be in operation before December 1.

The new span, with an elevation of 1,770 feet above sea level, is 28 feet above the bed of the river and the pipe will be 16 feet above the high-water mark set by the record flood of last spring. Total length of the bridge from anchor to anchor is 1,034 feet, with 600 feet between the piers. There are two main piers, each to be surmounted by structural steel towers 67 feet high to carry the main cables from which the pipe cradles are suspended.

Forty-seven feet of quicksand at the location for the north pier necessitated the sinking of this pier's caisson by air pressure.

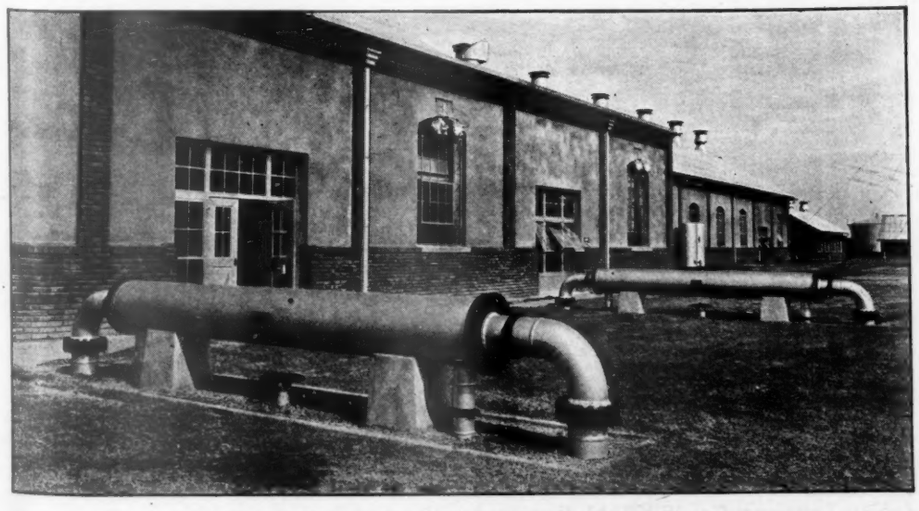
Tide Water Releases Local Crude to Run More Sem'nole

Tide Water Associated Oil Co. has notified producers in the Drumright, Oklahoma, area it will cease taking the 1,200 bbls. of local crude for processing at its Drumright refinery but that the same oil will be taken by Deep Rock Oil Corp. for processing in its Cushing, Okla., refinery. In releasing this oil Tide Water is able to absorb increased quantities of Seminole crude. This change does not involve the operation of the Drumright refinery in any manner.

British Government Latest In Turner Valley Rumors

The Canadian Press reports that the British Government is giving consideration to comprehensive plans for the development of the Turner Valley oil field, which include the construction of a pipe line to Vancouver.

The oil would be used for naval purposes. The Canadian Government has no direct connection with the plan, it was understood.



Coolers for engine jacket at main line station

Natural Gasoline

Butane Service Station Installed at Tulsa

The R. J. Allison Co. is installing a butane service station at the terminal on the Sapulpa road to furnish butane for trucks. The Allison trucks are equipped to run on either butane or gasoline.

Compressors Are Added to Louisiana Booster Station

The Memphis Natural Gas Co. is adding two 600-hp. six-cylinder Clark "Angle" compressors to its Guthrie, La., booster station. The new station now contains four twin tandem 1,250-hp. horizontal units. The new 300 r.p.m. angle units are being added to this station to give the station more flexibility and additional capacity.

New Type of Container For Holding Butane

H. W. Harts, superintendent of natural gasoline plants for the Warren Petroleum Corp., has designed a container for holding butane which is made out of lucite, a new, unbreakable, transparent material. The container is cylindrical in shape, 27 by 7 inches, with a capacity of 3½ gallons of liquid. It will withstand a pressure of 125 pounds.

INTERNATIONAL NEWS

Mexican Supreme Court Draft On Expropriated Oil Read

The final plea of 17 American and British oil companies whose properties were confiscated by the government in March received official attention of the Mexican Supreme Court last week. Draft of the decision denying the appeal of the American and British companies, written by Justice Agustin Aguirre Garza and read by him at a public session, upheld the government on every count. If usual procedure is followed, the official approval of the draft is merely a matter of form and will follow in due course. In practice, the draft was taken under private study by members of the Supreme Court.

The chief justice announced that the draft would not be discussed by the court until October 6 when the next public session will be held and the justices polled on the formal decision. That the decision would be against the companies was accepted as a foregone conclusion, as the court has consistently upheld the expropriation policies of President Cardenas.

The State Department at Washington may be expected to renew its discussions with Mexico within a short time. It was believed probable Secretary Hull and his aids had been so busy with European affairs during the past two weeks that very little time had been permitted for other questions, including the last note from Mexico over expropriated agrarian properties taken from Americans over a period of 10 years. Meanwhile, Mexico's limited shipments of petroleum to Germany, Italy and Japan continue about unchanged from the rate existing a month ago. There have been no new markets reported captured by the Mexican government oil sales agency, but representatives are still canvassing the South American and European possibilities.

It was reported from California that another Japanese motor ship bunkered at San Pedro and then proceeded through the Panama Canal to a Mexican port south of Tampico where she will take on cargo of about 65,000 bbls. of petroleum, at least part of which will be supplied by expropriated wells or refinery equipment.

Production in Iran Down For Month; Up for Year

Crude oil production in Iran continued its decline in July dipping to 695,000 tons, compared to 754,000 tons in June and with 939,000 tons for the same month in 1937.

Accumulative production so far this year totaling 5,962,000 tons continues to hold a margin over the total of 5,688,000 tons for the same seven months last year.

Iran crude production may be converted to barrels at the approximate rate of 7.515 bbls. per ton.

Search for Oil in Turkey Continues in Five Areas

The search for petroleum reserves continues unabated in Turkey, but results so far have not been particularly encouraging. At the present time exploratory drilling is active in five different sections of the country. One test is drilling in European Turkey about 75 kilometers southeast of Adrianople; one is near Adana; two tests are about 75 and 100 kilometers, respectively, northeast of Mardin, and one is near the northeastern end of Lake Van. The two tests in the vicinity of Mardin have been drilled to approximate depths of 3,500 and 4,000 feet, respectively.

Being without adequate supplies to meet internal requirements, Turkey has turned again to the United States for a bulk of its petroleum imports. The arrangement worked out between Turkey and Rumania last March made it possible for the former country to obtain the bulk of its requirements from Rumania, under clearing, during the second quarter of the current year. However, according to the American trade attaches in Istanbul and reported by the Department of Commerce, the clearing agreement between Turkey and Rumania functioned so unsatisfactorily that Rumania petroleum imports have practically ceased and American sources are furnishing the bulk of present requirements. The only importer of Russian petroleum products into Turkey is the Neft Syndicate. In recent months it has again become possible for this company to secure regularly from Russia the supplies necessary for conduct of its business, but it is estimated that the Neft Syndicate distributes hardly more than 15 per cent of the total petroleum products in Turkey.

During the first four months of 1938, the United States supplied about 70 per cent of the total gasoline and distillates imported by Turkey whereas Rumania was the source for more than 50 per cent for the same period in 1937. The United States also supplied more than 60 per cent of Turkey's kerosene imports during the first four months of this year compared to about 20 per cent in 1937 while Rumania was shipping about 65 per cent.

Trade reports indicate that Rumania regained part of its Turkish market losses during the second quarter of this year which doubtless will reduce the percentage of products obtained from the United States during that period. The dominance of the United States, however, as Turkey's petroleum supplier may become even more pronounced for the entire year than even the first four months' statistics reveal.

Despite the industrialization program now in progress, Turkey remains a comparatively small gasoline consumer. The program, however, is due for even further expansion under the second five-year plan and the agrarian population, particularly, is being urged to machinize its equipment. It is largely as a result of the industrialization program that sales of oil products have shown an increase in recent months. Gasoline consumption in particular has made rapid headway in consequence of the progress of motor traffic and an expanding market for all oil products now appears to be assured.

Gasoline consumption in Turkey, which amounted to about 27,000 tons in 1936, approximately 220,000 bbls., advanced to 37,000 tons last year and will be roughly 20,000 tons for the first half of 1938, although demand is normally smaller in the first half of the year than in the second. It appears probable, therefore, that total 1938 Turkish gasoline demand will exceed 40,000 tons.

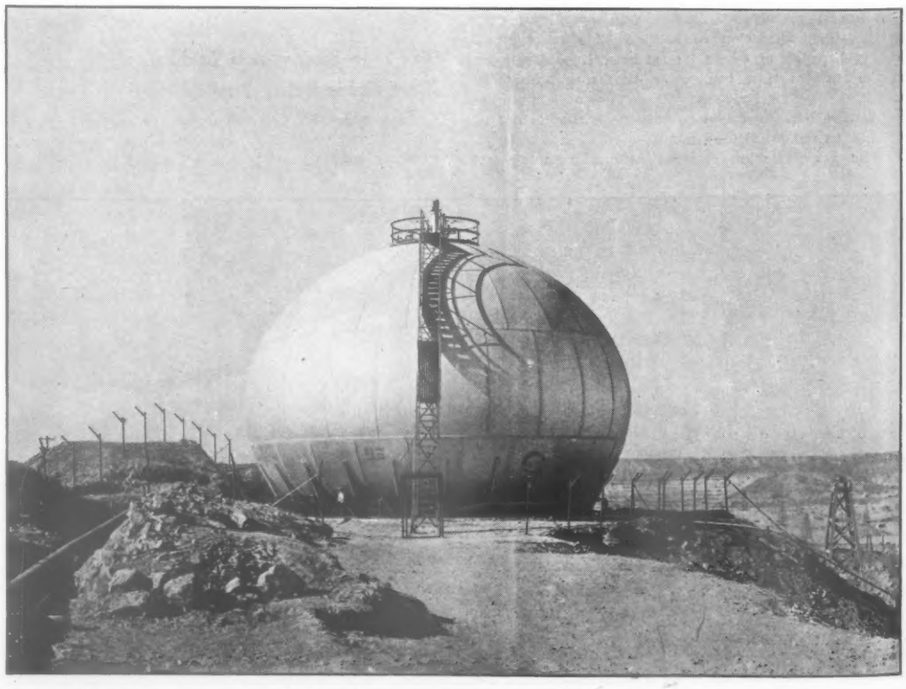
One contributing factor to the progress of motor transportation and consequently petroleum consumption in Turkey is that import duties on gasoline and kerosene was reduced by approximately 50 per cent during the last half of 1937.

One of the Turkish government's major programs at the present time is in the construction, extension and improvement of the country's highways and roads which perhaps constitutes the key reason for expansion of motor traffic and the resultant increase in petroleum consumption. The Turkish Ministry of Public Works is at present engaged upon construction of 25,000 miles of roads. About 15,000 miles of the highway program is exclusively new construction.

According to the estimates of the Association of American Automobile Manufacturers the number of motor vehicles in use in Turkey rose from 7,900 in 1935 to 9,500 in 1937. This growth was confined almost entirely to commercial vehicles which advanced from 3,700 to 5,200 during the period under comparison. The number of private cars remains more or less stable at around 3,500, although the road building program probably will contribute materially to increasing this class of vehicles in service.

Colon Completes Another Well In Western Venezuela

Colon Development Co., Ltd., has added another well on its property in the Tarra field (Las Cruces) in western Venezuela. The latest completion, No. T-89, flowed at the rate of 310 bbls. per day through open tubing.



Lobitos Petroleum Co. 10,000-bbl. Hortonspheroid for 15 pounds per square inch pressure

ENGINEERING and OPERATING

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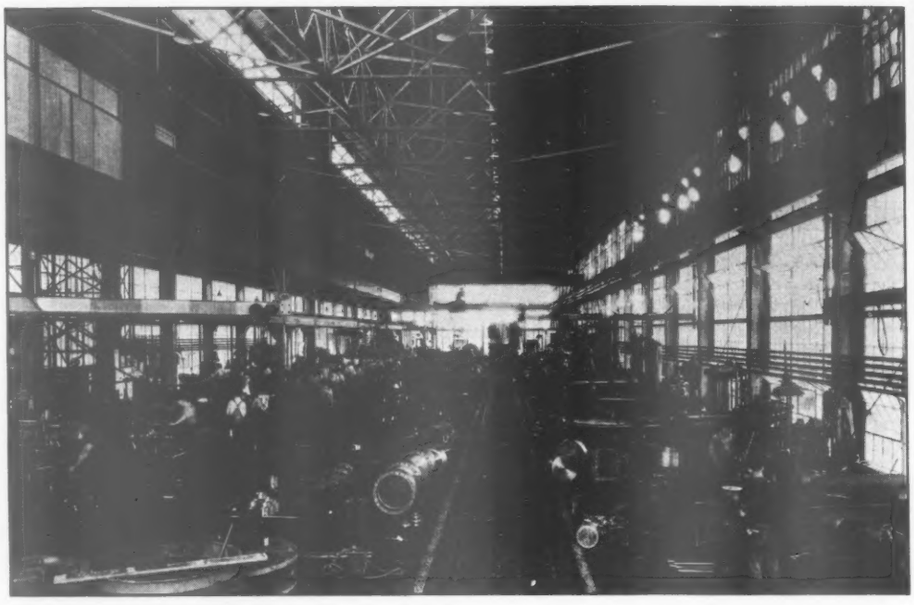
PUMP Maintenance and Repair

By GEORGE WEBER

Modern refining practices are largely the result of improved materials and plant equipment. Development of pumps, vessels and lines to withstand high temperatures and pressures under corrosive conditions with a wide margin of safety and reliability, has been a major problem for manufacturers.

This is especially true with respect to pumps. Since their use is universal throughout the refinery, general improvements in technology must depend on corresponding improvements developed by pump designers. The refinements recently accomplished in turn add to the necessity for adequate pump maintenance and repair departments in modern refineries. In addition, the current need for greater refining efficiency, disregarded to a large extent a few years ago, now requires close surveillance of pumping operations.

There is a marked trend among the large complete refineries toward development of efficient methods of repair, inspection, testing and recording of pumps and pumping operations. In many plants complete machine shops carry out extensive repair and rebuilding work. Inspection departments, record files of equipment and operations and laboratories for evaluating newly developed materials are being widely stressed.



This machine shop in a large Gulf Coast refinery is equipped to repair and rebuild almost any type of pump used in operations. A wide range of work from simple renewal to complete fabrication is possible in many similar shops in large refineries

Centrifugal Pumps

A large percentage of the pumps installed in modern refining units are of centrifugal type. They are capable of high capacity, nonpulsating operation under generally simplified bearing and packing conditions. Centrifugal pumps are being adopted on practically all reflux lines in new distillation and cracking units, and in many cases they are used in hot oil charging. They are also generally employed in handling water for cooling and boiler feed.

In order to attain high discharge pressures without resorting to added stages, pump manufacturers have developed units which operate at very high speeds. Increased turbulence in units running at speeds up to 3,600 r.p.m., coupled with the high temperatures required in many cases, greatly augment corrosion, cavitation and packing wear. Thus the new requirements demanded of pumps of this type introduces problems formerly unknown.

Packing and bearing problems were the first encountered in high-speed centrifugal units. The accumulated thrust of successive stages created excessive pressures on the packing gland at the suction end. This disadvantage has been overcome in newer units through equilization of thrust by rearrangement of stages to give a hydraulic balance to the unit during operation.

Packing practices for centrifugal units differ considerably from those followed in maintenance of reciprocating type pumps. In heavy-duty hot oil centrifugal units, where high temperatures are hard on packing, aluminum foil and other metallic packing is generally employed. In installing this type of packing, it is important to make certain that the laps of foil are laid in the same direction of rotation as that of the pump, to guarantee their lying smooth during operation. The gland should be pulled up tight, so that the operating pressure or thrust will not pack it tighter and cause disalignment.

Corrosion usually attacks the pump the greatest where the vane is attached to the impeller shaft. Vapor erosion and abrasion from foreign suspended matter is noted initially at the inlet to the impeller, the point of greatest change in velocity of fluid.

Development of new materials resistent to corrosion and abrasion has greatly minimized these dangers, but the wide variation of conditions to which pumps are subjected in refineries requires considerable study in determining correct specifications for individual installations. To follow up results of such research, a close check on operations is necessary, to observe actual service conditions. While marked progress has been made in adapting new alloys in centrifugal pump manufacture, the art of high alloy casting has not yet been fully developed.

Inspection Methods

The periodic examination of centrifugal pumping equipment is an important service in the large refinery. Frequency of inspection will vary with the conditions under which individual pumps operate. It is general practice to give important auxiliaries a thorough examination each time the unit they serve is down. General inspection is usually carried out each six months, but important pumps may be checked as often as every 30 days.

A thorough inspection of a centrifugal pump consists of dismantling it and checking in detail for clearance, corrosion and abrasion. Correct clearance, particularly in the newer units, is of prime importance. To minimize slippage, the highly efficient pumps now made, are designed with an extremely fine clearance between the rotor and case. The life of the pump depends largely on the maintenance of the clearance prescribed by the manufacturer. In the advanced designs equal expansion of rotor and case over a wide temperature range holds the clearance constant.

Assembly Essential

However, incorrect alignment during installation, or stresses either perpendicular or parallel to the axis, set up in the drive shaft or case by line expansion and coupling wear, will greatly affect the clearance. The resultant chafing and channeling will quickly damage a pump at the high speeds now used. Incipient abrasion at any point on the shaft or impeller rings will cause increased slippage at that point accelerating the wear. Such a condition, although it affects the balance of the rotor only slightly, is magnified many times by high speeds. It is important, then, to inspect such tolerances within the range allowed by the manufacturer and check wear before it sets up unbalanced stresses at high operating speeds.

A visual inspection of the pump interior is also necessary. Points on the fluid channel or on rotor or casing, which show a higher polish than the

surrounding surface, indicate excess slippage or turbulence and should be checked carefully for abrasion. All surfaces in contact with the fluid should be examined for evidences of pitting from corrosion. Excessive corrosion in pumps handling salt water is sometimes due to electrolysis, caused by the use of ferrous and nonferrous metals in rotor and case.

Paraffin deposits and sediment in lines should be checked. Iron deposits are especially troublesome in cooling water systems where continuous temperature change takes place in the stream.

Observation Important

The alert operator can help considerably in maintaining high pump efficiency. He should watch continuously for visible leaks or undue vibration in pumps, and report without delay. An experienced pumper can detect loss of efficiency in a pump by his familiarity with discharge pressures and rated capacities.

A decline in the latter, noted in operation, can be thoroughly checked by the testing department. By blocking off discharge lines and bringing the pump to rated speed at rated head, the capacity and discharge pressures may be compared with shop test curves furnished for each individual pump by the manufacturer.

Repair and rebuilding of centrifugal pumps in refinery machine shops is generally limited to the smaller light units. The more advanced models used for heavy duty require more specialized attention. Service inspections by representatives of the manufacturer are valuable in keeping the more complex units in efficient operation.

In one plant, the shaft sleeves on the high-speed hot oil pumps operating at 3,600 r.p.m., gave trouble when packing required for those conditions scored them. The sleeves were stellited, but it was found that they checked at high operating temperatures.

Because the reciprocating pump predominated in past refining operations, it represents a larger share of the worn, damaged and outmoded units in any refinery. Although in many cases, the work done by reciprocating piston and plunger pumps could be handled more efficiently by centrifugal units, but the cost of new installations may not justify the added economy. Costs can be cut by rebuilding old pumps of this type in refinery machine shops.

Modern equipment for machining, grinding, milling, casting, heat treating and precision testing is finding increased use in many plants. Complete stocks of billets, bars and cylinders of steel and alloys are kept on hand for a wide range of uses.

Plunger pumps can be completely rebuilt from the shell in. Units with the decking worn thin are built up inside by welding, and then rebored to correct specifications. In some cases bores of old pumps have been filled solid, annealed and rebored. The bore surface can also be rebuilt by brazing with bronze.

New rings for piston type pumps are machined out of cylinder stocks. In most cases where pistons are also reworked, the rings are made oversize, allowing for machining of grooves in the reworked piston. It is often difficult to find piston rings which will hold their tension at high temperatures. In such cases plunger pumps can be substituted for the original units.

The increased adoption of metallic packings has necessitated considerable work in hardening and heat treating in refinery repair shops. Metallic packings are found often successful in cutting replacement costs in better withstanding the pulsation of pressure from maximum to minimum in heavy duty units. To prevent leaks, they are pulled up tight during the suction stroke. This will cause scoring in some cases, and shafts and plungers which were sufficiently hard for the original packings need reworking.

Centrifugally cast stainless steel plungers are used in many cases, because of their high resistance to corrosion. A Brinell hardness of 450 is necessary and 500 is usually preferred, to cut down on packing replacements. The problem is solved in other cases by stelliting plungers. In this work Monel metal has been found more easily applicable than steel, for stelliting by operators without considerable experience in the process.

Correct installation and adaptation of pumps to specific duties is of prime importance. This is particularly true of centrifugal units. Suction and discharge lines must be so designed that expansion due to temperature changes will not affect alignment. Couplings on drive shafts also require careful installation, and subsequent checking for wear, to prevent axial distortion. Some casing failures may be traced to lack of sufficient support of suction and discharge lines near the pump.

In bringing hot oil pumps into line it is very important that the temperature rise be gradual. Recirculation through a by-pass should be continued until the operating temperature is reached, when the entire stream may be cut through the pump. When hot oil pumps have been tested hydraulically during down time, care should be taken that all traces of water are removed before placing the unit back on stream.

Since metallurgy plays a major part in modern pumping equipment, most large refineries employ an experienced metallurgist who often has charge of the testing records department and materials laboratory. One company keeps detailed records of all tests made on pumps in the plant, in addition to repairs and alterations.

At another refinery a similar system is being perfected. Each pump and compressor in the refinery is given a number, and a card index is kept of the specifications of the unit, the analysis of materials efficiency rating and any work done on the unit during its operating life.

These records are an invaluable aid in ordering new parts and in replacing units. They are also useful as a basis in designing pump installations for new duties. To aid in the research, laboratories are maintained where each new alloy or packing which is developed in the trade, is given thorough examination for abrasion and corrosion under a wide range of tests representing the actual operating conditions in the plant. The results of these laboratory tests, coupled with the close check kept on pumps in service, constitutes an important collection of data, from the standpoint of the manufacturer as well as the refiner.

SAFETY- While Grinding Hard Surfaces

One of the chief complaints of safety directors and foremen is that it doesn't seem to do much good to talk to some men. No matter how often they caution them to do or not to do a certain thing, the men go right on ignoring safety measures and devices put in the shops and on the job for the worker's protection.

A majority of the accidents in the oil industry last year were caused either by lack of supervision or failure to obey a direct safety order or use a safety device provided. A safety device found in practically all shops are goggles to protect workmen's eyes while grinding or chipping metal.

A distribution of 250 of the accidents which resulted in permanent partial disabilities during 1937 show that there were 20 eye injuries that caused the loss of 13 eyes and the impairment of vision in 7 others. This means that eye injuries alone accounted for 8 per cent of the total injuries studied.

Nearly all of these injuries could have been prevented by men using goggles. However, getting the men to use the goggles is another problem and the effectiveness of enforcing this safety rule will alter the above figure.

One foreman in the Seminole district found that his men were frequently working on grinding tools and metal saws without goggles. Prominently displayed signs and frequent verbal warnings didn't seem to be doing much good so he decided to enforce this rule by making it impossible to operate the grinding tools without first handling the goggles. He reasoned that once the men had the goggles in their hands they would put them over their eyes. To help in this direction he left no place handy where they could lay the goggles.

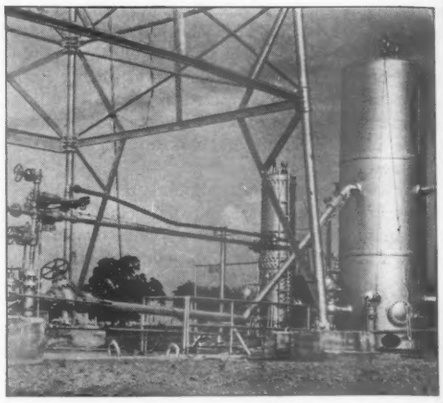
The foreman simply built a box around the switch and placed the goggles in it. To turn on the power to operate the grinder, the men must first remove the goggles from the box. As they have no place to put them, they naturally wear

The operator must open the box and remove the goggles before he can turn the switch

them. The foreman found that where his warnings and words were to no avail, this forceful reminder had the desired results and he now finds his men wearing their goggles when working on these machines.

Heavy Equipment Is Needed for Drilling Fox Pool Deep Tests

BY HARRY SIMONS



Tubing and well head hook-up on the Carter Oil Co. No. 1 Williams, SW NE SW Section 27-2s-3w, Fox field, Oklahoma. The separator on the right is for low pressures, the one on the left for high pressures

Oklahoma's deepest field is the Fox pool located in Sections 26, 27, 28, and 35 of Township 2s-3w, in Carter County, where production is found from 8,000 to 8,100 feet. There have been many wells drilled to greater depth than those in this area but because of the difficulty of drilling, Fox is attracting the attention of engineers and drillers. The deep pay is under the same leases as the old shallow production at Fox which was discovered in 1923 and the contrast between modern heavy drilling and production equipment and the light stripper machinery is very noticeable.

The deep pay was discovered on October 24, 1935, when the No. 1 Williams of the Carter Oil Co. and others, in SW NE SW Section 27-2s-3w, blew in after acidizing to free stuck drill pipe. There was some doubt as to the source of the production as cutting samples were not obtainable due to the blowout but it was finally determined that the oil was coming from the oolitic lime, Oil Creek section of the Simpson formation. After bringing the well under control, 8,094 feet of 7-inch O.D. pipe was run and cemented and on production test on March 14, 1936, the Williams well made 3,600 bbls. of 46-gravity oil and 17,363,661 feet of gas in 24 hours.

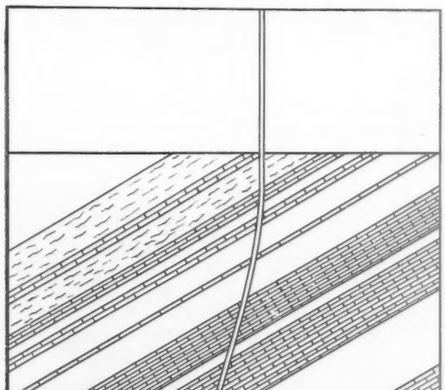


Diagram A. Hole being shoved down slope by alternating hard and soft formations having a dip of 30 degrees

Up to the present time there has been only three other completions in spite of the fact that there has been at least one operation in progress most of the time since the discovery. At the present time there are six drilling rigs at work in this area with several wells due to complete in the near future.

The Fox area is 7 miles straight north of Healdton, Okla., and is located on the flanks of the Arbuckle uplift with the formations having a steep dip to the southwest. The dip is not so extreme in the Pennsylvanian formations but increases as the older formations are entered. The Pennsylvanian is not relatively thick, being about 4,500 feet, the same as the Ramsey field in Oklahoma, but all of the formations under it are considerably thicker than those found in most Oklahoma areas, particularly those of Ordovician age. Another factor is that these formations are not drilled vertical to the bedding plane of the strata but are drilled at considerable inclination to them. The dip in this section varies from zero to 60 degrees as shown by recovered cores. Assuming a 60-degree dip the formations would only be one-half as thick as the distance of the hole drilled through them. Diagram A shows formation of such a dip being drilled.

Drilling operations are closely supervised to prevent crooked holes. In drilling in such areas, light bit pressure is used but drillers occasionally become irked by the slow going and in their anxiety to get the hole deeper are apt to put more weight on the bit than instructions permit. To prevent drilling any amount of crooked hole because of this or other causes, deviation tests are taken every 30 feet. Recording weight indicators show the bit pressure at any time during the day and makes it possible to tell just how much weight was being run when the hole started off the vertical. Gulf Oil Corp.'s engineers have been compiling information ever since their entry into the field with the drilling of the No. 1 Smith, in C SW SW Section 26-2s-3w.

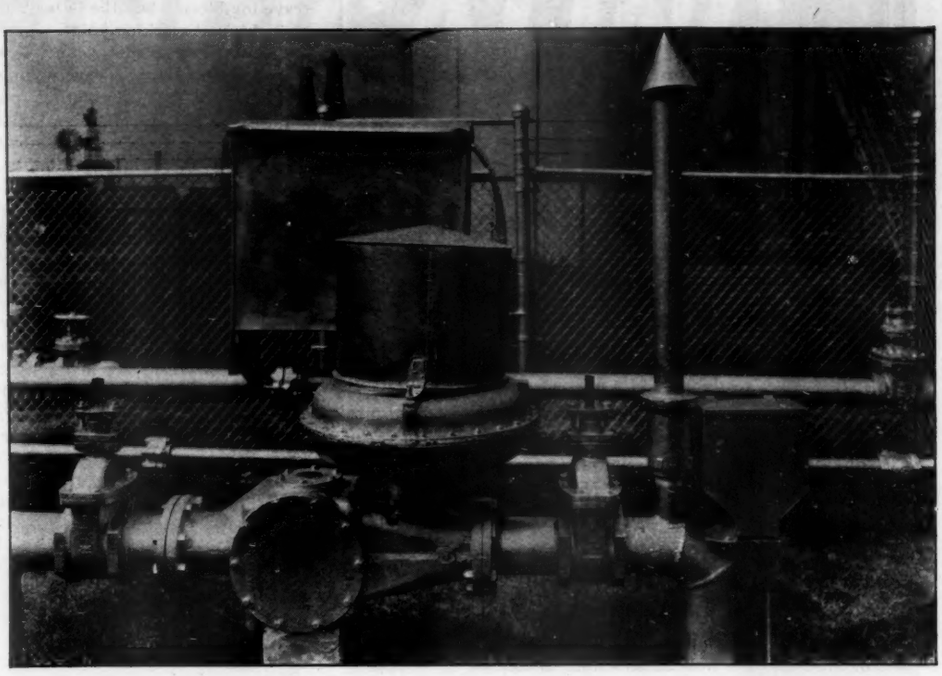
Because of the depth of the wells and the slow drilling speed, this area provides ample opportunity to study drilling conditions. Numerous tests as to the efficiency and convenience of taking straight hole data were made and the most satisfactory selected. The accepted method is checked occasionally by other methods to see that the results are accurate. The straight-hole data gathered is kept as a permanent record on each well and correlated on log strips of the well. A glance at this log strip will show how much weight was run at a certain depth, deviation of the hole, and the formation being drilled. From 2,000 to 6,000 pounds bit pressure is used in the field and a rotating speed of from 100 to 150 r.p.m. However, it was found that 6,000 pounds bit pressure was too much in some spots and would start the hole to drifting at certain critical points. The Caney shale, Sycamore lime and Woodford chert from 3,350 to 4,200 feet were found to be particularly treacherous and on later wells, bit pressure was reduced while drilling through these formations. Diagram B shows hole being deflected from vertical due to alternating hard and soft layers like the formations mentioned.

Two engineers are kept busy checking the drilling fluid on each well. There is a danger of blow-outs, the mud must be conditioned to keep the hole clean and in good shape and in several formations a tendency to lose mud has been noted. This is particularly true of the producing sand between 2,200 and 2,260 feet and the top of the deep producing horizon. One well required a large amount of Aquagel, Baroid, Fibrotex, and cotton seed hulls before it could be completed. The No. 1 Franklin of the Gulf Oil Corp., in C NW SE Section 27-2s-3w, was fighting a blow-out

(Continued on Page 50)

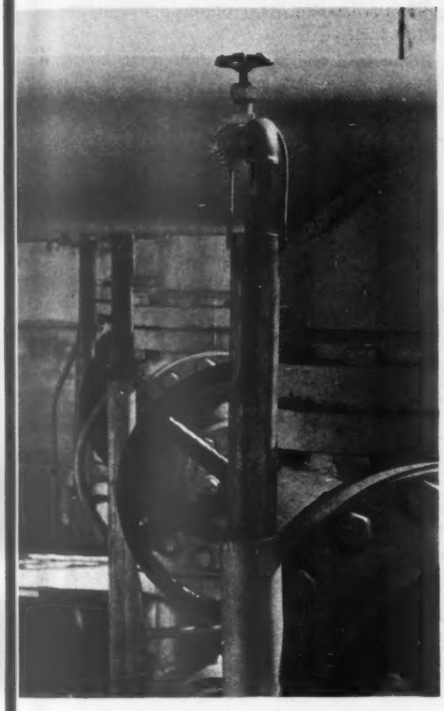
View from derrick of pump shed, steel tank used for circulating pit, and a section of the reserve pits on the Gulf Oil Corp. and Carter Oil Co. No. 7 Lester, C NW NW Section 35-2s-3w, north of Healdton, Oklahoma

OPERATING IDEAS



Lock Box for Gas Regulator

Boys passing by found the regulator on the high-pressure gas line rather fascinating and found great pleasure in tampering with it and changing the adjustment on it. This annoyed the plant operators quite a bit. The orifice meter had quite an attraction for passing school children who delighted in marking up the chart with variously colored crayons. To protect the children and themselves, these Oklahoma City operators installed the locked boxes shown in the photograph on both the meter and regulator.

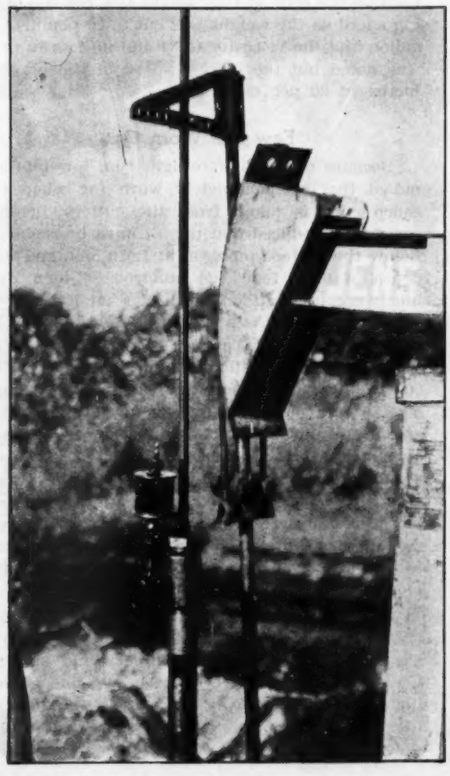


Pipe Line Manifold

Sampling of oil being carried through the line is done through a connection consisting of a three-quarters inch nipple welded in a 6-inch line with a valve and L on it. The sample bucket is hung on the connection when the valve is opened. In case the sample bucket overflows, the oil is caught in the 2-inch pipe which has considerable capacity because of its length.

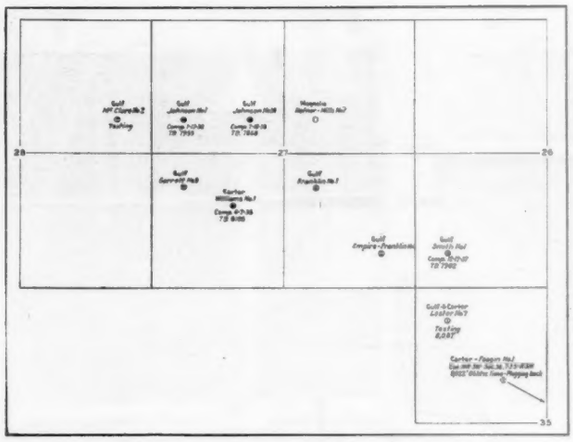
Pump Jack Operates Vacuum

A short working barrel connected to the casing is used by this Nowata, Okla., operator to reduce the pressure on the sand. It is operated by the polish rod at the left and reduces the amount of air and gas in the casing. Operation through the triangular swing attached to the top of the oil well polish rod. Each stroke of the pump jack operates both the production string and the vacuum polish rod. As only air and dry gas are being moved by the vacuum pump, it is necessary to install the lubricator on top.



Remote Exhaust Stacks

At one time there was danger of fire from a spark from the engine exhaust blowing back into the pump room of this station. The operators ran the exhaust 75 feet from the building and muffled them. Located on the north side of the building because with the prevailing winds from the south the danger is believed to be definitely past.



Plat of the Fox field in Sections 26, 27, 28 and 35-2s-3w, Carter County, Oklahoma, showing completions and wells drilling. The Gulf Oil Corp. No. 2 McClure has been completed for a producer

HEAVY EQUIPMENT

(Continued from Page 46)

the first week in September and had pumped two pits of mud into the hole in an effort to control the well. Artificial muds and fibers were being used to make the drilling fluid. Engineers had not decided as to the source of the gas which is giving them the trouble.

Periodic check is made of the mud for weight, viscosity, per cent of solids and gel strength, and if any corrective measures are necessary, the mud engineers instruct the drilling crews. As heavier mud cuts down the drilling speed, every effort is made to keep the mud in a condition where the maximum drilling speed may be maintained without danger of losing circulation. In one case a weight of 9.8 pounds per gallon and a viscosity of 28 was insufficient and circulation was lost. The mud was increased to 10.3 pounds per gallon and 40 viscosity and circulation regained but keeping the mud at this weight reduced the drilling speed so the weight was cut to 10 pounds per gallon and the viscosity to 34 and no loss in mud was noted but the cutting speed of the bit was increased 30 per cent.

Few Bits Worn Out

Because of the light weight run, few bits are pulled that are completely worn for when the sharp edge is taken from the cutters, drilling speed is so reduced that the bit must be replaced. Below the surface pipe, set at 1,016 feet, and to a depth of 6,000 feet, one hundred 8¾-inch rock bits were used on one well, for an average of 49.8 feet per bit. As an example of what may be expected of bit performance in the lower part of these holes, the drilling of the 102 feet from 6,003 to 6,105 feet required 12 bits, or an average of 8.56 feet per bit. Time required to cut this amount of hole was 124 hours, or an average cutting speed of .81 foot per hour. The greatest footage from a bit in this section was 27 feet while the least was 3 feet. The low footage per bit necessitates frequent trips and only the best drilling rigs can stand up under this terrific beating. It also is the reason for an average of five months being required to drill these wells.

In most cases 136-foot derricks having 26-foot base are used. This provides much more working space for the floor machinery and also allows more space between the crown and traveling block when picking up a stand. Because of the large blocks, hooks and elevators being used, shorter derricks were unsafe as they allowed only a few feet between the crown and traveling block when the latter was at its highest working point.

The top soil in this vicinity is a loose sandstone and mud was being lost through the circulating pit walls until the use of steel tanks was introduced. As the time to drill these wells is around five months, they are equipped with conveniences for the drilling crews. Plenty of room is provided for clothing and personal effects and most rigs have large sunshades to protect the men.

At the present time power and power-electric rigs are in use by contractors on Gulf locations with one modern steam rig being used by the Carter Oil Co. on its No. 1 Feagin, C NW SW Section 36-2s-3w. This rig has two 125-hp. boilers, a large Foster Wheeler superheater, 12 by 12 twin-cylinder, roller bearing drilling engine, and an 18-inch stroke power pump driven by a 7 by 7¾-inch vertical steam engine. The rotary table is individually driven by an engine similar to that on the pump. An auxiliary duplex steam pump is used for emergency circulation. As an additional aid in controlling the bit pressure, this rig also has an automatic drilling control operated by fluid pressure.

Rigs Similar

The three Diesel-electric rigs are all very similar in construction having an individual building for the power and generating equipment consisting of two large vertical eight-cylinder Diesel engines varying in horsepower from 275 to 300 and two direct-current generators having a capacity of from 150 kw. to 250 kw. One set of Diesel motors has been converted to gas to utilize some of the fuel being produced from the wells. The generators are mounted on one skid with the motors occupying a skid each. On one installation a small internal combustion motor drives a generator which provides current for operating the electric starters on the Diesel engines. The other two units are started by compressed air.

The drawworks are powered with either two small electric motors (200-hp.) or one large motor (350-hp.). All of these motors are equipped with special motor-driven fans for cooling. One of the Diesel-electric rigs (Gulf No. 1 Empire-Franklin) has a weight control unit for which the back-pressure is generated by a small internal combustion engine.

Mud pumps are all large, having an 18-inch stroke and pistons varying from 6 to 6¾ inches. They are driven by electric motors having horsepowers varying from 275 to 350, depending on the rig.

There are two direct-driven motor rigs in use in the field with one using Diesel power and the other using gas-engine power. The Diesel rig has two six-cylinder, 225-hp. Fairbanks-Morse, two-cycle Diesel engines connected together through a shaft and gear box. The pump and drawworks drive from the same shaft. The other mechanical rig has two 300-hp. LRO Waukesha motors using gas for fuel.

Because of the time to drill these wells, the large number of trips made and the heavy line loads, some rigs are using 1⅛-inch drilling lines. Most of the wells in this field have required changing the drilling line four times. Using only light weight on the bit reduces some of the strain on the drill pipe but here again only the best is seeing service as contractors cannot afford fishing jobs caused by inferior drill stem.

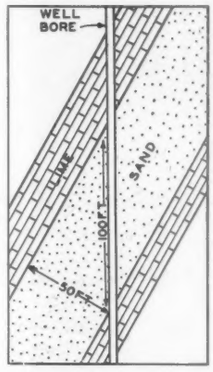
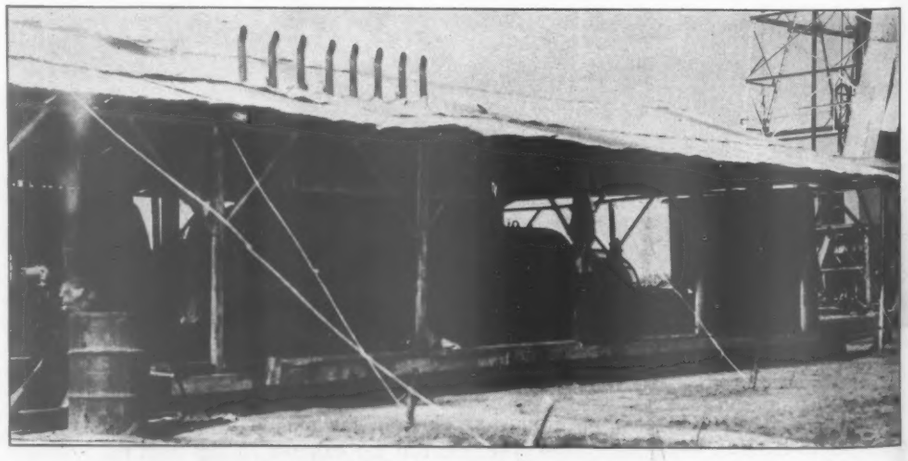


Diagram B. Illustration of hole drilled through formations dipping 60 degrees, showing that thickness of formation is only half of the distance through it

Despite the care taken to avoid trouble on these holes, several bad fishing jobs have been encountered that have delayed completions for long periods. As a toolpusher for one contractor in the field put it, "The law of averages is against us. When we have to drill for five months on a well, some bad luck is bound to overtake us." Fishing occupied two of the wells, the Gulf No. 8 Garrett, in C NW SW and the Gulf No. 1 Franklin, in C NW SE Section 27-2s-3w, during most of the month of August.

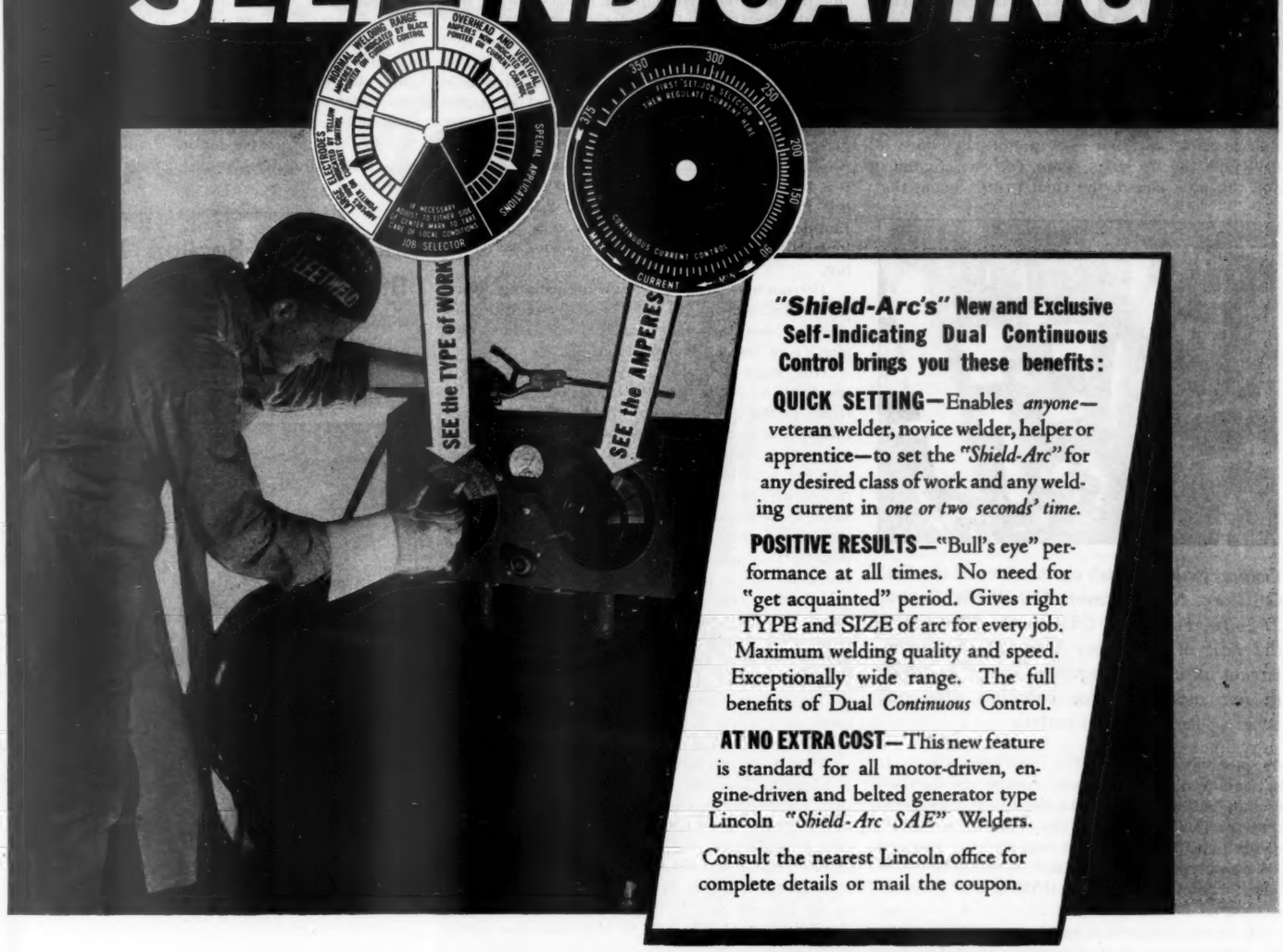
Two Fishing Jobs

The Garrett well started March 2 under the surface pipe set at 1,016 feet and had reached a depth of 6,498 feet on August 6 with only minor trouble. When the drill pipe was removed from the hole the drillers found that the reamer being run on bottom to help keep the hole straight had twisted off below the box and just above the reamer cutters. As it was impossible to get over the fish with an overshot, a tapered tap and ro-



Motor and generator building of the large Diesel-electric drilling rig in use on the Gulf Oil Corp. No. 1 Empire-Franklin, C SE SE Section 27-2s-3w, Fox field, Carter County, Oklahoma

SELF-INDICATING



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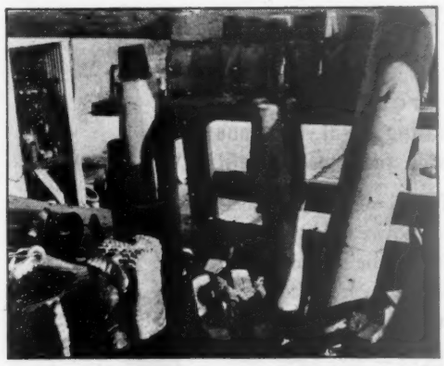
tary jars were run and the fish caught. However, due to the bit being stuck, it was impossible to pull it. The hold was broken and the mud conditioned for a day and then the fish caught again but the bit was still frozen and could not be dislodged despite 24 hours' jarring so the drillers again broke their hold and ran a bit into the hole and circulated to condition. Seven and five-eighths inch casing was then used to wash over and the fish caught with the tapered tap and this time it came loose but after pulling 39 stands of drill pipe the bit stuck again. Oil was circulated and the pipe jarred, the final results being that



Fishing tools and fish on the floor of the Gulf Oil Corp. No. 8 Garrett, C NW SW Section 27-2s-3w, Fox field, Oklahoma. This fish is the half of a reamer body in the center. Basket bit in left foreground and C.P. basket in left rear used for catching pins and reamer cutters

the pipe came loose but the fish dropped back to bottom. A die collar finally picked the fish off bottom but when it got to the top it was found that the reamer cutters, pins and lugs were still in the hole. The next week was spent in running different types of baskets and basket bits in the hole to recover this junk. Drilling was resumed on August 27.

A depth of 7,528 feet had been reached on the No. 1 Franklin and it was reported in the Bergen sand on August 5 when the drill pipe became stuck. Efforts to dislodge the pipe failed and circulation of fluid stopped. The drilling fluid became so low in the hole that the well blew out and mud had to be pumped around the pipe to bring the well under control. Washing over and cutting of the pipe was started and four cuts were made. The drillers experienced considerable difficulty in removing the cuts from the hole and had to circulate oil on some of them. The well was conditioning mud and getting ready to drill ahead on August 26.

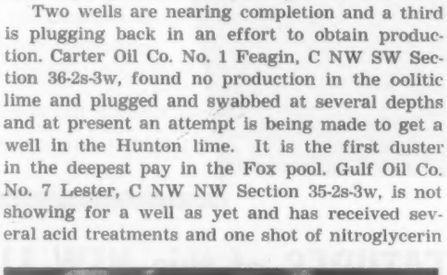
The Carter Oil Co. No. 1 Williams and the Gulf Oil Corp. No. 1 Smith and No. 1 Johnson wells set surface strings from 350 to 400 feet, an intermediate casing string from 5,000 to 5,500 feet and a pay string of casing from 7,900 to 8,000 feet. The pay string is generally a combination string, one well running 2,424 feet of grade D pipe with H T couplings on bottom, the next 934 feet being grade D with regular couplings and the top 4,458 feet being grade C with regular couplings. The pay string is protected with 500 sacks of cement. On the Gulf No. 1-A Johnson, the practice of eliminating the intermediate casing string was started and 1,000 feet of 11¾-inch surface pipe was set. On the Gulf No. 7 Lester, 2,200 feet of 11¾-inch was set to prevent any trouble being caused by the sand at that depth. Six and five-eighths inch drill pipe is used to drill the surface hole with 4½-inch drill pipe being used to drill the 8¾-inch hole.

Drilling-in of these wells requires more time than ordinarily because of the hard formations and acidizing and testing. After coring and drilling the pay the drill pipe is replaced with tubing, the drilling fluid displaced with water and then the water displaced with oil. If the well fails to flow, acid is used to loosen the formation. In some spots the pay requires large acid treatment, one well requiring a total of 41,000 gallons of acid and a shot of 108 quarts of nitroglycerin before it was considered completed. Gas production on the wells varies widely, 24,000,000 feet being the highest and 1,600,000 feet the lowest. Pressure is generally around 2,500 pounds. In one case a bottom-hole choke was necessary in addition to a surface choke because of freezing.

Bottom-hole tests are run immediately upon completion and on the first of every month. Gas-oil ratio tests are taken at the same time. The gravity of the oil ranges from 43.3 to 70.8.

Gulf engineers are studying the gas problem carefully so as to get the most economic good from it. The gas-oil ratio is being kept as low as possible, around 4,000 feet per barrel. One well having an abnormally high gas-oil ratio was brought into line by use of a formation packer to cut off the gas. The No. 1 Smith is equipped with a continuous gas sampler for determining the gas content as it comes from the well. Ultimately, this gas may become a very important economic factor as it may be used to repressure the shallow sands in the old shallow production zone. The major difficulty is the broken formation which would require repressuring on a communitized basis. Wells are being equipped with low- and high-pressure separators so the gas can be handled for any purpose desired. At present some of this gas is being sold for fuel while the rest is going to an absorption plant in the field.

Two wells are nearing completion and a third is plugging back in an effort to obtain production. Carter Oil Co. No. 1 Feagin, C NW SW Section 36-2s-3w, found no production in the oolitic lime and plugged and swabbed at several depths and at present an attempt is being made to get a well in the Hunton lime. It is the first duster in the deepest pay in the Fox pool. Gulf Oil Co. No. 7 Lester, C NW NW Section 35-2s-3w, is not showing for a well as yet and has received several acid treatments and one shot of nitroglycerin



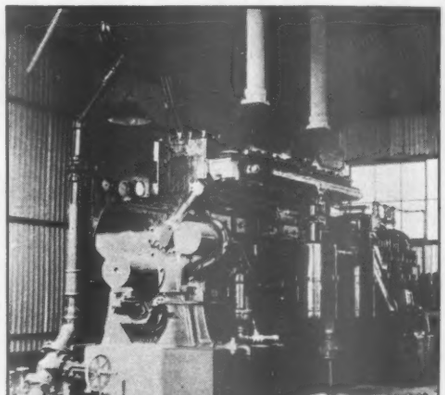
Reamer cutters, reamer pins and lug recovered from the hole at 6,498 feet on the Gulf Oil Corp. No. 8 Garrett, C NW SW Section 27-2s-3w, in the Oklahoma Fox field

in an effort to get it to kickoff. Gulf No. 2 McClure, C SE NE Section 28-2s-3w, is just starting to test. Gulf No. 1 Franklin, C NW SE Section 27-2s-3w, will set pipe soon; the No. 8 Garrett, C NW SW is again fishing and the No. 1 Empire-Franklin, C SE SE Section 27-2s-3w, is fighting a blow-out. The No. 1 Hefner-Mills, C SW NE Section 27-2s-3w, of the Magnolia Petroleum Co. is rigging up.

Drilling for the deep production will probably continue to be carried on in a cautious manner due to the expense involved and the danger of drilling a dry hole because of the irregularity of the formations. In an effort to get the most oil at a minimum expense, operators and royalty owners in the area agreed to a 40-acre spacing plan. Many of the leases are divided with the production above the Hunton belonging to one company and the Hunton and below to another. Many of the operators of the shallow production were not willing to attempt to produce the deeper pay zones.

Shell's Ten Section Pumping Station Compact in Design

In order to pump the oil produced at its prolific Ten Section field in the San Joaquin Valley to its trunk line at Bakersfield, Shell Oil Co. of California recently erected a pump station which is outstanding in its compact design. The Ten Section field production at present is about 9,000 bbls. per day under rigid curtailment, but it is steadily increasing as the company rigs turn in an uninterrupted series of 8,200-foot completions with no dry holes. The station has been designed to meet future needs as well as those of the present. It is situated in the center of the field and oil is discharged through 17 miles of 8-inch line to Bakersfield, from where it is pumped to the Martinez refinery in the San Francisco Bay area.



Natural-gas engines drive the centrifugal pumps through fast-floating shaft couplings and speed-increasing gears at Shell's Ten Section station

Prime movers at the new station are two six-cylinder Waukesha natural gas engines with 7-inch bore, 8½-inch stroke, capable of delivering 164 hp. They are each equipped with a 5-hp. electric starting motor. Other accessories, such as filters and cleaners for all products entering the engines, are used. The engines drive the pumps through speed-increasing gears, which are connected to the engine shafts by means of fast-floating couplings.

Each of the two centrifugal pumping units consist of one Byron Jackson 4-inch by 4-inch six-stage, 3,150-r.p.m. centrifugal pump mounted on a common base with the speed increaser. An engine speed of 1,000 r.p.m. is stepped up by the increasing gears so that the centrifugal pump operates at its rated speed of 3,150 r.p.m. The speed-increaser gears are equipped with sleeve bearings, positive oil circulation, and oil-cooling facilities.

The pumps discharge at an average pressure of 800 pounds. The Ten Section oil requires no heating.

Half-Soling Gas Pipe Line Cuts Maintenance Cost

By NEIL WILLIAMS

Although practiced by some companies on oil lines, half-soling for repair of leaks, breaks or other bad sections in gas lines generally has not been considered feasible. However, for the past year Southwest Natural Gas Co. has been doing much of this work on its Southwest and West Texas systems with successful results. To this company the practice has proved adaptable and is effecting substantial savings in maintenance costs.

Objections to half-soling on gas lines in operation have been occasioned largely because of possible hazards involved in cutting through the pipe while welding the sole. Southwest Natural Gas Co. has been doing the work with a minimum of pipe cutting, and has found no particular danger is involved should the pipe be cut through. In fact, on various occasions the pipe has been cut through intentionally without any consequent hazardous results.

Advantageous of half-soling for line repairs are:

1. The line does not have to be shut down while repairs are being made.
2. Cost of repairs is small, and the work can be done readily and quickly.
3. Section half-soled is stronged than when new.

Usually Replace Line

Customarily, repairs of leaks on gas lines are made by replacement of bad sections. For this the line must be shut down, by closing the nearest gates on each side of the section to be repaired, and the section drained. In the case of single, or unlooped, lines this necessitates suspension of service for duration of the work. Although the gas held in the line is usually sufficient for as much as an hour's use, replacement jobs ordinarily require more time. To minimize shut-down time extensive preliminary arrangements must be made and everything placed in readiness so the work can be carried out on a definite schedule.

In the procedure followed by Southwest Natural Gas Co. no formalities or special preparations are required. This company maintains a repair crew of eight men, which, with a light service truck carrying materials and portable welding equipment, is ready at all times to make any repairs without delay. As many as two to three half-sole jobs have been completed by the crew within a half day, including time for uncovering and cleaning the sections to be repaired. For replacement of these sections several days might be required.

The practice of half-soling bad places on its gas lines was started by this company about a year ago. It was originated under the direction of E. L. Coward, general superintendent of the Southwest and West Texas systems. Most of the work so far has been done on the former system, the main line of which extends from the Edna field, Jackson County, to Luling and Lockhart, in Caldwell County. This line, laid with 6-inch pipe, has been in operation about 10 years.

For soles, sections of old pipe split in two lengthwise are used. Pipe which has no other use serves the purpose. For repair jobs on the Edna-Lockhart system, the pipe lengths are cut at the company's central warehouse and yards at Yoakum. Carried to the job on the line by the light service truck, the pieces are cut by torch there to desired length for the repair.

The installation of section half soles on a line belonging to the Southwest Natural Gas Co. From top to bottom: Tightening a half sole on a repair job with hydraulic and screw jacks, cleaning a section of one line to be half-soled (leak clamp shown will be removed), cutting and rounding corners of a half sole to be placed on the line, and tack welding the sides before removal of the jacks after which weld is completed

There are two main types of these repair jobs. First, there is the job in which the leaks and bad places are all on one side of the section of line. When these can be covered with just one of the half sections of split pipe the job is designated as "half-soling." This type of job is most common as generally the leaks and corrosion take place on just one side of the pipe, usually the under side. When the section of line has leaks or is pitted on both top and bottom and requires covering all around, the job is called "jacketing." On such jobs two half soles are welded on, one on the under side and the other on top. With their edges lapping and welded together, these form a "jacket," completely encasing the section of line being repaired.

Replacement Often Necessary

Occasionally, in view of the time the line has been in use, the condition of the pipe is so bad it does not justify repair. In such instances the section is replaced with new or reconditioned pipe. However, to be unrepairable, the pipe has to be extremely badly and deeply pitted with leaks spread out over so much of the face of the pipe it would be difficult to patch and cover all of them with a half sole. A section may have numerous leaks but if these extend along one side of the pipe lengthwise effective repairs can be made by half-soling.

In the procedure followed, sections of line to be half-soled or jacketed are uncovered both above and under the pipe. This is done by hand. The pipe is cleaned and old scale removed by hammering, filing and brushing. Leaks are plugged, wedges cut from pieces of green tree branches being used when available. The green wood tends to swell on the inside of the pipe under pressure, preventing blowing-out. In the case of large leaks in which bigger plugs must be used, it sometimes is necessary to hold them in with a piece of wire wrapped around the pipe until the half sole can be put on. For packing, sections of old inner tubes are placed over the plugs and leaks and tied on with cord. When the half sole is pulled up tightly over these patches, the gas leaks are completely packed off, permitting welding the sole in place.

A half sole, cut of sufficient length to extend well beyond both ends of the section to be repaired, is used. Before putting it on, corners are cut off with the torch and rounded to make a smooth job. The sole also is hammered out slightly so it will fit around the face of the pipe, which is of the same size. Hydraulic jacks, as well as screw jacks, are used to pull the sole tightly and snugly on the pipe and hold it during the welding. First the ends of the shoe are welded, and then the edges. As soon as sufficient weld is made to

(Continued on Page 60)

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Maintenance and Care of Pipe Line Station Equipment

By H. B. TREFZ
Imperial Oil Co., Ltd.*

Pumping equipment for pipe lines has varied during the past few years. Most oil pumps for pipe lines, if operated within the pressure limit they are designed for, give very little trouble. A chief engineer in charge of a station will know, after operating a pump for some time, how long a set of pump valves will last, and can change them at regular intervals. At times when oil is not so clean or a valve breaks they must be changed oftener.

Plungers of reciprocating pumps must be packed, taking care not to draw the packing up too tight. At times the plungers wear and must be turned down or replaced, but a good plunger will last for several years, if the proper kind of packing is used.

The station crew should keep all excessive oil cleaned up around pumps. Crude oil lying over the base of a pump and lubricating oil over the frame makes a very unnecessary fire hazard. All bleeders and seepage from plungers should have drains to the waste pit to avoid having oil exposed in pump room.

Pumps should have a good footing. This will go a long way toward cutting down maintenance cost, as it eliminates excessive vibration. If possible, pumps should be well painted as they are more attractive to look at and easier to keep clean.

Maintenance of motive power or engines of pipe line stations vary as to the type and make. When the equipment is new, it will operate for some time with very little maintenance. It might be compared to the engine of a car which everyone knows will give several miles of service before requiring mechanical attention.

The pistons of Diesel engines must be pulled out to clean carbon from the rings. The grade of fuel used and working load will determine the number of hours the engines may be operated before this must be cared for. It is a very good plan to have pistons pulled out and cleaned after six months of continuous service, and not to exceed a year. This is more true with engines of oil line stations, as crude oil from the line is generally used for fuel.

A steadily operated pipe line station should have a yearly maintenance program for the engines. When pipe lines have several stations and several engines to the station, it works very nicely to replace a few worn out pistons and cylinder liners each year if possible. A piston and liner with new rings should give several years of service, and by replacing a few each year the maintenance cost can be equally distributed over several years and, at the same time, the equipment as a whole will be in good repair. Most pipe lines have an extra unit at each station for a reserve, which simplifies the maintenance of pumping equipment. When a unit starts giving trouble it can be shut down at once for repairs and the extra unit put into service. However, some lines are working all their pumping units continuously, and the deliveries of oil will be short when they are shut down for repairs. When a line is operated under these conditions, it is best to arrange for each unit to receive a complete repair job during the winter months or at whatever time of the year the demand for crude oil is at its lowest. Each unit should be reconditioned to be able to give a year's continuous service with as few shut downs as possible.

Electric motors for driving pipe line pumps require very little maintenance for years. It is a good policy to pull out the armature once a year, clean the armature and starter coils thoroughly and give them a good coat of insulation paint to prevent the insulation from breaking down. The slip rings of large motors must be dressed down at intervals, but this is a minor job. Electric storms may burn out a few starter coils, but three or four hours' work will replace them.

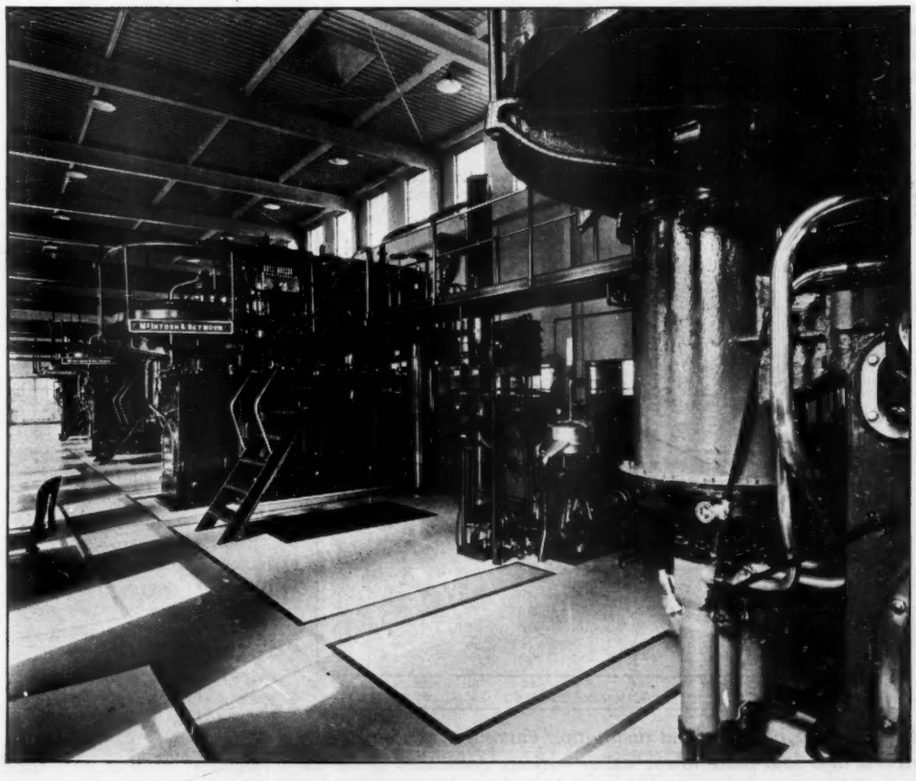
Regardless of what type of motive equipment is in use at pipe line stations, they should be well painted and free from excessive grease, keeping the machinery clean.

Buildings and station property can be maintained with but very little trouble if taken care of properly. If a board falls off one building and a brick off another, it is perhaps but a few minutes work for the men at the plant to replace them at the time it happens, but if the little repair work is neglected, it may require a major repair job and outside men to carry on the work. This will increase the cost of maintenance and at the same time the property will have a shabby, run-down appearance.

Bad foundations should be repaired before damaging the walls of the buildings; broken window glasses replaced; surface water drained away.

The communication system of pipe lines is one of the essential parts of pumping oil. If the line is constructed with good material and labor, it should last for several years with but very little maintenance.

On several pipe lines the chief engineer makes minor repairs on the communication system in the section allotted to his station. With this system one general man for trouble shooter can look after several miles of wire. At times he can be furnished with extra labor for trimming trees from wire or setting new poles. In hot dry climates it is sometimes necessary to tighten up the hardware on the poles every few years and quite often broken insulators must be replaced.



Diesel engines connected by cat-walks at pumping station

*Supplementary to the article by the author entitled, "Maintenance of Pipe Lines," which appeared in the issue of September 22, 1938.

Fractionating Complex Mixtures

By W. L. Nelson

Effect of Fractionation on Yield

One important fact that early became obvious was that the top temperature cannot vary much with changes in the amount of reflux that is used, when producing a product of fixed endpoint. This is true because the separation between the endpoint material and all lower-boiling materials is easy and nearly complete at customary reflux ratios, except for those materials that have boiling points close to the endpoint. Thus, the large amount of low-boiling material which constitutes the main bulk of the overhead product is effectively separated from the endpoint material—and it is this main bulk of material that governs the top temperature or the 100 per cent point on the equilibrium vaporization curve. Regardless of the degree of fractionation, the main bulk of material, that is, the part of the product falling between 0 and about 90 per cent, has nearly the same boiling range regardless of amount of reflux and probably only the last 10 or less per cent of the high-boiling end of the product is affected by the use of more reflux or better fractionation.

The intimate relationship between the top temperature and the 100 per cent point on the equilibrium vaporization curve has alreay been studied.[1] The top temperature in commercial towers is found to be only a few degrees lower than the 100 per cent point on the equilibrium or flash vaporization curve. Furthermore, the equilibrium curve is more dependent on the whole boiling range of the top product than upon the endpoint material—and in fact most correlations of flash curves and distillation curves have been based on the 10 and 70 per cent boiling points of the distillation curve. Thus, if the 10 and 17 per cent points are not changed, the top temperature will not change.

These conclusions can be easily substantiated by computations and have been substantiated in connection with this paper. A whole series of computations were made using different amount of reflux and using different top temperatures. In all cases the distillation curves of the products so produced were all nearly coincident, and nearly completely so between 0 and 80 per cent. This occurred to some extent even if such absurdly low top temperatures as 230° F. were assumed, even though the proper top temperature from the characteristics of the product so produced was indicated to be in the range of 280°-300° F. Furthermore, the top temperatures computed from the distillation curve of the several products mentioned above were all found to be in the range of 280°-300° F.

This is the fifth of a series of papers on the Fractionation of Petroleum Mixtures. In this study it is found that the yield of a given endpoint material is not greatly affected by the use of large amounts of reflux. In many respects the discussion presented herein indicates more about the fundamentals of mixture-fractionation than anything presented in previous papers, although the subject is not one that can be studied mathematically with any great satisfaction.

TABLE 3—EFFECT OF REFLUX ON GASOLINE YIELD FOR A FIXED ENDPOINT MATERIAL BEING PRODUCED IN A 4-PLATE TOWER

Computation No.	Reflux ratio b	Value of e	Top temp. (°F.)	99% point of product (°F.)	Yields: Gasoline (%)	Yields: Kerosene (%)	Notes
1	Infinity	Infinity	315	401	28.7	21.3	
2	5.35	10	295	400	27.9	22.1	
3	3.21	6	290	400	27.6	22.4	Minimum reflux
4	1.61	3	290	415	...	...	Insufficient reflux
5	1.07	2	290	427	...	...	Insufficient reflux
6	1.07	2	*230	415	...	...	Insufficient reflux

*This temperature is illogical and has no practical significance because the product produced thereby was of such a boiling range as to require a top temperature of over 300° F.

In studying two-component systems it is a foregone conclusion that if the composition of the feed stock and of the overhead product are fixed, and the number of rectifying plates is fixed, the amount of reflux required for the separation is also fixed. The same situation, although in a more complicated manner, appears in the fractionation of complex mixtures. Reflux affects each of the components of the mixture to a different degree — the low-boiling components being separated from the endpoint material with relative ease, whereas the separation becomes increasingly difficult as components whose boiling point approaches that of the endpoint material are considered. Thus, there is a minimum reflux that can be used in a tower of fixed number of plates to cause the separation of a particular endpoint product. This reflux quantity is more than adequate for separation of all of the low-boiling components but is just enough to cause the separation of the endpoint material from its nearest-boiling component. Furthermore, the separation of the components in and about the endpoint, from one another is a difficult separation, and hence the amount of reflux required to produce a given endpoint in a normal boiling-range gasoline or overhead product is rather large and amounts to 2 to 4 parts of hot or internal reflux per part of overhead product.

Of even greater significance is the fact that this minimum reflux quantity is so large, when acting on the lower-boiling components that it causes an almost complete separation of them and hence only the very highest-boiling material can be affected by larger refluxes than the minimum. Note that the minimum reflux here discussed is not the same as the "minimum reflux" term used so extensively in describing two-component systems. In two-component parlance "minimum reflux" refers to the reflux required for a given separation when utilizing an infinite number of plates, whereas in this discussion we are referring to the amount of reflux that is required for a given separation when a fixed but less number of plates than an infinite number are employed.

From the above discussion it is obvious that yield is not greatly affected by using more than the minimum amount of reflux—that only the small amount of material in and about the endpoint is affected by additional reflux. In fact, computations indicate that neither the yield nor the degree of fractionation is improved to a practical extent by using more than the minimum reflux that is required to obtain a given endpoint. This amounts essentially to saying that the amount of reflux used in a tower system is fixed by the endpoint desired—that up to the required reflux quantity the endpoint will be too high, and that past this the degree of fractionation and yield is not greatly improved.

The generalizations given in this paper are illustrated by Table 3 and Figure 9. In Table 3 are shown the yields that were obtained with different amounts of reflux. The study was confined to the use of only four-plate towers, and the crude oil feed stock and other conditions were the same as those used in Articles 3 and 4 of this series.

Figure 9 shows the distillation curves (T.B.P.) of the gasolines produced by Computations 1, 2, and 3 and also a curve of the gasoline that would be produced by using infinite reflux and plates.

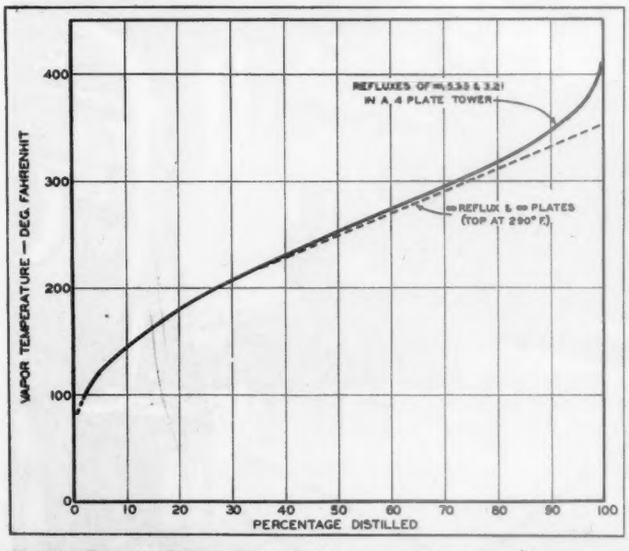


Fig. 9—True boiling point distillation curves of gasolines produced in a four-plate tower using various quantities of reflux. Also curve for infinite reflux and number of plates

Reference

1. Nelson—"Petroleum Refinery Engineering," p. 443, McGraw-Hill Book Co., New York, 1936.

A HIT IN ANY FIELD!
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Reclaiming Refinery Material

By E. R. Jones
Skelly Oil Co.*

THE subject is almost infinite in scope for anything that is used in a refinery has a salvage value if nothing more than to be sold for "junk"; therefore, I'm going to limit the materials discussed to still tubes, valves, towers and waste chemicals. The paper is intended merely to be a resume of the experience that various refiners have had reclaiming the materials mentioned. Several things will be mentioned to which the answers are not known, but which are brought up for the purpose of discussion.

The practice of welding pressure still tubes has caused considerable thought among refiners, but as far as I have been able to find out not a great deal has been done in this area, particularly with Cr-Mo alloy tubes. However, I understand that some refiners have had success using welded alloy tubes, welded in the field, but I am not familiar with the details.

The Crucible Steel Co. of America, by W. George Johnson, recommends, "In welding two pieces of Lo Cro 46, Lo Cro 46W or Lo Cro 46 MO together, and if it is possible to anneal after welding, a Lo Cro 46, or Lo Cro 46W, or Lo Cro 46 MO welding rod should be used. The welded section should then be heated to a 1,100/1,200° F. temperature and air cooled. However, if the material cannot be annealed after welding, then a Rezistal KA-2-SMO welding rod should be used, if the service temperature will be 1,000° F. or higher. If the service temperature is lower than 100° F., and it is not possible to anneal, a Rezistal KA-2-S welding rod may be used. It is our belief that, when possible, the best practice would, of course, be to use a welding rod similar in composition to the material to be welded."

In a refinery a new still, to be operated under low pressure than the cracking still, was erected requiring shorter tubes than were used in the cracking still. The tubes used in the original construction of the still were all used tubes that had been reconditioned, as well as were in headers. The tubes were cut off at each end to the proper length, thus removing the previous roll and defective ends, since tubes seemingly corrode more on the ends. The tube ends were then made smooth on the outside. The headers were reconditioned by grinding in the plug seats and purchasing oversized plugs. The still then was completely tubed from salvaged materials, except for the plugs. The still operates at an outlet pressure of 25 pounds and outlet temperature of 610° F. with an inlet pressure of 185 pounds. The tubes have been in service for some time and no trouble has been experienced other than what might be expected from new equipment.

Another unique use of old tubes is that of using them as air ducts under the floor of a boiler to be used as air preheaters, as reported being done by one refinery.

At the Skelly refinery at Eldorado, Kans., considerable use has been made of welded carbon steel tubes for use in both low- and high-pressure stills. No attempt has been made to weld Cr and Mo alloy tubes, for as yet a proper method for welding has not been obtained.

Tubes that show a wear of 50 to 55 per cent are taken out of the pressure stills. Old stubs are welded on each end and the tubes made the proper length to fit in a rerun unit operating at low pressure. In all cases, the stubs used are, as near as possible, the same thickness as the tube to which they are to be welded. The maximum pressure is 175 pounds per square inch. The maximum furnace temperature over the bridge wall is 1,500° F. The only tubes used in this still now are welded tubes, and they are used until 20 to 25 per cent of the thickness of a new tube remains which means 80 to 75 per cent of the tubes are used. There has been one tube failure since using welded reconditioned tubes. This was on a tube that was very thin. It had really exceeded the allowable wear. The failure was a pinhole in the weld.

Carbon steel tubes with stubs welded on them have also been placed in service in pressure stills where maximum oil temperature is 915° F., furnace temperature is 1,450° F., and maximum pressure of 750 pounds p.s.i. The tubes used are ones that have a good wall thickness but had to be removed to allow the removal of other tubes, or changing headers. Sixty-nine (69) of these welded tubes have been in service in the radiant section of a cracking still since March, 1937, with wonderful success.

There has been only one failure of these tubes at the weld which occurred just recently. The failure occurred while testing the unit out at 1,500 pounds p.s.i. cold pressure. The tube was in the area of greatest coking and was known to be slightly swelled. The weld was found to be cracked in 5 different places and all on the bottom side of the tube. The failure has been explained in this manner: (1) "The function of a metal part (in this case the weld) is to transfer the load that is applied to it to another part. Thus the whole piece or material is under stress and at such points as a nick, the stress must avoid or pass around the nick or irregularity in the material. Thus, stresses are concentrated at notched sections, sharp corners, sudden changes of dimension, nicks in the surface, nonmetallic inclusions, carbide particles, blowholes, corrosion pits, etc. These irregularities are frequently the starting point from which fatigue cracks develop." Apparently, as the tube swelled, the weld metal proved unable to stretch with the tube and stresses were set up, cracking the weld. The cracks began at the outside and traveled toward the inside as shown in the sketch.

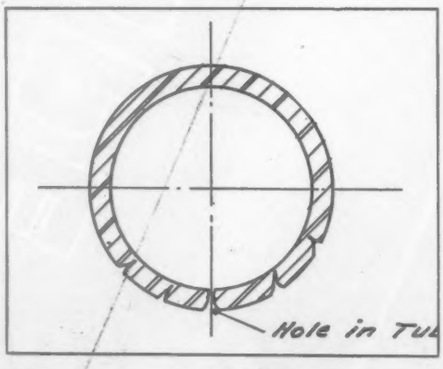


Figure 1

Corrosion, or erosion, as observed from this one example seems to act the same on the weld metal as on the tube proper. This tube and this weld were both corroded some so there is a possibility that the failure was due to corrosion fatigue, for when corrosion fatigue is experienced there is a[2] "complete loss of the beneficial effects of heat treatment and cold working. There is an intrinsic corrosion fatigue limit for each metal and corroding medium, so that no matter how a piece of steel is heat treated or cold rolled, the endurance limit under corrosion is the same, unless, of course, the heat treatment is such as to render the material more corrosion resistant, such as the heat treatments applied to alloys in the stainless group."

Experience so far has shown that the use of welded tubes in pressure stills is practical, but should be watched closely for evidence of swelling.

The tube ends to be welded together are placed in a machine and properly shaped with a special cutting tool. Figure 2 shows the shape. Note that the bevel is not brought to a sharp edge on the inside of the tube.

When the two ends are brought together the total angle of the notch for the weld metal is on the order of 30 degrees. Two pieces to be welded are straightened, of course, and placed end to end in an angle trough for support. They are tack welded on the top and two sides, then turned over and the seal bead started and run, the tube being turned continuously. Usually three fills are made besides the seal bead. The weld is usually made larger than the tube but never exceeds the diameter of the tube by more than 1/32 of an inch. This extra metal is put on to get a better bond on the outside of the tube, and to compensate for lack of weld metal on the inside of the tube. No. 5 Fleetweld rod is used to give better ductility.

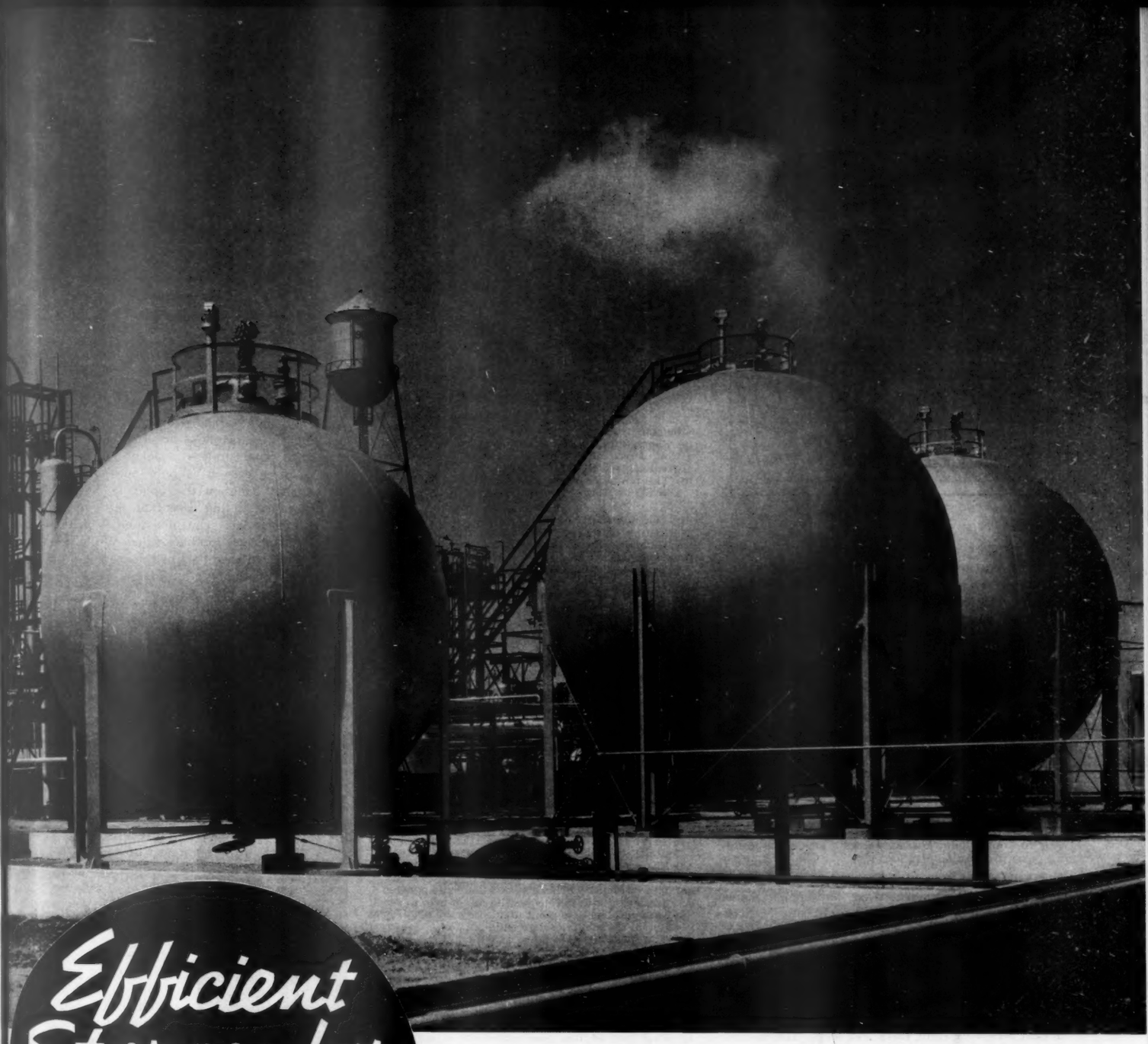
No attempt is made to heat treat the weld other than to so choose the length of the stub that the weld will be 3-4 feet from the tube sheet inside the furnace which should have a similar effect to heat treating.

Towers too, unfortunately seem to corrode, erode and finally become too thin for safety. Here, as with still tubes, they are drafted into service at a lower pressure thus prolonging the life of the tower.

The lining of towers is being given a great deal of consideration. Some have been lined with Lumnite cement as a corrosion resisting measure which, of course, is not purely a salvage job. It is interesting to note that this type of lining seems satisfactory at temperatures below 700° F., but has given trouble under severe conditions because of spalling.

Several towers have been lined with 12-14 per cent chromium sheets and plug welding these sheets to the carbon steel sheets. This is done by perforating the alloy sheets with holes of one-half inch or so diameter on 3- to 4-inch centers, then filling up and welding through these holes with alloy welding rod. It seems that some trouble is being experienced with this type of lining in the form of cracks around the plug welds. I am told that vessels lined in this manner should be inspected frequently, but if the tower has reached a stage that it cannot be used any longer, a lining

*Presented before regional technical group of the Western Petroleum Refiners Association meeting at Wichita, September 29.



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THE HORTONSPHERE

job of this type will keep it in service awhile longer.

An interesting job of salvaging a tower was done by one refiner. The carbon steel sheets were welded on the outside of the tower. The original sheets in the tower were riveted together in such a manner that such a job was possible without the rivets interfering. The tower is still in operation; however, it is now in low-pressure service.

Another job of interest is that of lining the inside of a bubble tower. The tower was lined with three-sixteenths inch carbon steel. The sheets used

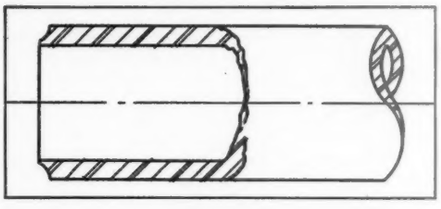


Figure 2

were 20 feet long and 30 inches wide, placed in a vertical position. The sheets were welded completely on a periphery to the shell of the tower as well as riveted. The rivets were placed 1 foot apart. This tower is still in use and in the original service whereas it was ready to be discarded before the lining was put in.

Later methods of lining are as discussed under the alloy sheets, that is of drilling holes in the lining and welding it to the shell. Some vital points to watch on a job of this nature are that the liner is formed to the shell and is as snug as possible; at each hole, the sheet should be securely tied by welding to the tower and not merely "bridged" over; and the edges of the sheets should be sealed against the entry of oil between the liner and the tower.

No doubt every refinery does a certain amount of valve reclaiming, such as building up the bodies, particularly pressure release valves on pressure stills, renewing disc, seat rings, and stems. Some refiners build up valve bodies using bronze, others use Fleetweld rod No. 7. The latter gives a soft weld, easy to machine and probably is more resistant to erosion than is bronze.

Our materials department reports that of valves, 2 inches and up, checked out, 75 per cent of them are reconditioned valves. By reconditioning is meant renewing stem, discs and seats. The cost of reconditioning a valve will vary from 15 to 45 per cent of the cost of a new valve. This depends on the type of valve and the condition of the used valve. These valves have been tested to 100 pounds per square inch air pressure and will do the work of a new valve; thus a worthwhile saving is made.

No valve bodies or yokes are carried in stock. If a valve comes into the repair shop with a broken body or yoke, the broken part is salvaged as junk and usable parts are saved to be used on other valves.

I would like to invite some discussion relative to reconditioning and "building up" worn valve bodies of the various alloys. It is my understanding that if the body is 4-6 Cr then an 18-8 rod containing some Columbium should be used. The Columbium acts as a stabilizer. This, of course, may be applicable to the welding of alloy still tubes.

As to the reclaiming of chemicals, it doesn't seem necessary to spend any time on the recovery of lead sulfide for nearly every refiner is performing this operation to a certain extent. For those interested in the details I might refer them to Carl Berger of the Globe Oil & Refining Co. at McPherson, Kans., who probably has done as much work on this subject as anyone in this area.

Acid sludges are either burned under boilers or concentrated into sulfuric acid after the tars have been separated. The former, while not a reclaiming method, is a satisfactory method of disposal where the volume of acid sludge is not large enough to justify a concentrating plant.

The disposal of spent caustic or sodium sulfide formed during the caustic washing of petroleum products to remove hydrogen sulfide is fast becoming a problem for the refiner. The revivification of this sodium sulfide solution into a suitable agent for removing hydrogen sulfide presents some interesting studies. Some of the methods studied are:

1. Contacting with flue gases.
2. Blowing with air.
3. Stripping with steam.

1. Contacting with flue gases:
   (*a*) The sulfide was converted to carbonate.
   (*b*) Not all of the phenols were removed; however, they were not present in sufficient quantity to be detected by odor.
   (*c*) Excess air in the flue gases caused the precipitation of free sulfur. A CO_2 content of 9 per cent or greater gives the best results.
   (*d*) The temperature of the solution should be held above 180° F. to give the best results.

2. Blowing with air:
   The nature of the reaction is such that if hydrogen sulfide is removed, the reaction is reversed.
   A caustic soda solution removes hydrogen sulfide from petroleum distillate by the following reaction:

$$\underset{\text{sodium hydroxide}}{2NaOH} + \underset{\text{hydrogen sulfide}}{H_2S} = \underset{\text{sodium sulfide}}{Na_2S} + \underset{\text{water}}{H_2O}$$

$$\underset{\text{sodium sulfide}}{Na_2S} + \underset{\text{hydrogen sulfide}}{H_2S} = \underset{\text{sodium hydrogen sulfide}}{2NaHS}$$

   The compounds to the right of the equation are in equilibrium with those to the left. If free hydrogen sulfide is removed from the solution then the equilibrium is destroyed and the reaction proceeds to the left.
   Although no commercial use has been made of the process as yet, considerable laboratory work has been done and found that some hydrogen sulfide is removed.
   (*a*) The rate of hydrogen sulfide removal was increased as the intimacy of contact between solution and air was increased.
   (*b*) The rate of hydrogen sulfide removal is increased with an increase in temperature.
   (*c*) It is difficult to bring the titration ratio above 0.4. Titration ratio is defined as the ml. of acid to reach phenolphthalein endpoint divided by the ml. of acid to reach the methylorange endpoint.
   (*d*) The chief objection is the oxidation of the sulfides in solution, thus reducing the alkalinity; however, it is possible to extend the usefulness of the solution.
3. Stripping with steam:
   (*a*) Hydrogen sulfide is removed when the solution is hot, but is slower than with air and requires a large volume of steam as well as auxiliary heat.
   (*b*) There is no oxidation of the sulfides.
   (*c*) This method has possibilities for a continuous process of revivification wherein the titration ratio is kept with certain limits.

Where mercaptans are removed by means of a caustic scrub previous to sweetening, the caustic may be partially revivified by heating and air blowing. The operation is one of a continuous nature wherein the caustic leaving the revivifier and going to the scrubber exchanges heat with the spend caustic going to the reclaiming tanks. The reclaiming tanks may be either open and the mercaptans allowed to go into the air or a tower and overhead condenser may be used. The mercaptans go over the top of the tower and are condensed. They can either be burned or used as "perfumes," or odorants, whichever you prefer to call them.

When air blowing is used a temperature of 180°-200° F. is more satisfactory. Higher temperatures give better mercaptan removal, but there are certain physical objections such as a caustic mist in the air particularly when open tanks are used.

The heavy mercaptans are not easy to remove, as a result they concentrate in the caustic solution and the material has to be discarded when the mercaptans concentration in the solution reaches a point that it no longer removes mercaptans from the gasoline.

In closing I would like to invite some discussion on welding alloy tubes and revivification of spent caustic.

The writer wishes to give credit and thanks to R. E. Dace, resident engineer of the Skelly Oil Co., for the valuable assistance given him and to the personnel of the Derby Oil Co., Wichita, Kans.; the El Dorado Refining Co., Eldorado, Kans., and the White Eagle Refining Co., Augusta, Kans., for the information given him.

References

1. W. L. Nelson, The Oil and Gas Journal, Vol. 37, No. 15, Aug. 25, 1938, p. 58.
2. D. J. McAdams, Jr., in Transactions, American Society for Steel Treating, Vol. 2, p. 355 (1927).

HALF-SOLING PIPE LINES

(Continued from Page 53)

hold the shoe, the jacks are removed. This completes the repair unless a jacket job is required. In the latter case it is only necessary to weld another half sole on the opposite side in similar procedure, taking care that the edges of the two half soles lap. The pipe then is primed and coated, and the section back-filled. While the welding is being finished part of the crew can proceed to uncover another section of line to be repaired, so there need be little delay or idle time.

Butane gas is used for welding. This is not as hot as acetylene and is a little slower, but there is less chance of cutting through the pipe during welding. A full butane drum is carried on the serving truck as regular equipment.

Sixteen-foot "jacket" repair job showing overlapping weld of under-side sole

As much as 60 feet of line has been half-soled in a single repair job. Sections to be repaired usually range, however, from a few feet up to 15 to 20 feet. In some instances leaks have been repaired with as much as 250 pounds pressure being carried on the line. Occasionally fires have been started but these have been controlled and extinguished easily and without danger. In the case of large leaks or breaks catching fire the flames have been killed readily by pouring a bucket of water on heated rocks or stones placed under the leak. The steam caused by the contact of the water with the hot rocks smothered the flames.

Leaks around collars on screw lines also have been repaired by welding without shutting down the line. In the case of a small leak it is necessary only to weld directly at the point of the leak. However, with a badly leaking collar a half sole or jacket type repair is made. A short half-section of pipe, swedged down at the ends to fit down the collar around the pipe is provided for the under side of the collar. A similar piece of pipe, but fitted with a nipple outlet on top to permit escape of gas from the inside, is cut for the top half. These pieces are welded on in similar manner to a repair job on the line itself. When the welding is completed, the nipple opening on top is plugged.

When a leak develops when it is not convenient to make a permanent repair, or when weather conditions are not favorable, temporary repairs usually are made by applying a leak clamp.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Alchlor or Aluminum Chloride Process for Making Lube Oils

If possible will you give me a description of what is called the Alchlor Process for making lubricating oil?—M. G. R.

The essential principle of the Alchlor Process for the preparation of lubricating oil is based on the use of anhydrous aluminum chloride, which was originally suggested by Friedel and Crofts for the synthetic formation of lubricating oil. A. M. McAfee first applied the reaction for the preparation of gasoline, but early in his work he found that when petroleum was distilled in the presence of aluminum chloride, lower boiling hydrocarbons were produced, leaving a residual oil free of asphaltic and resinous constituents. Lower temperatures, than when making gasoline, are favorable for processing lubricating oil. The lubricating constituents, through the action of the aluminum chloride, are freed of these bodies which are more easily oxidized, deposit excessive carbon on volatilizing, and which are more susceptible to change in viscosity with variations in temperature. McAfee states that the oil, after the removal of water and light products, is boiled at 500° to 550° F. for 24 to 48 hours at atmospheric pressure. Brownlee made low specific gravity lubricating oils having low cold test and high viscosity from light petroleum distillate containing unsaturated hydrocarbons, by agitating with 0.1 pound per gallon or less of anhydrous aluminum chloride at 300° to 400° F. for 1 to 1.5 hours. Sullivan, Voorhees, Neely, and Shankland conducted experiments at temperatures ranging from 70° to 200° F., demonstrating that polymerization time was related to temperature and increase of the quantity of the catalyst shortened the time. The percentage, on the charge, of aluminum chloride varied from 1.7 to 5.1. The synthetic oils had the properties shown in the table:

SYNTHETIC OILS

	A	B
Gravity, A.P.I.	30.6	29.7
Flash, °F.	515	615
Pour	—20	0
Viscosity (Say. V.):		
Seconds at 100° F.	850	3,250
Seconds at 210° F.	85	197
Color, N.P.A.	2	2½
Conradson carbon, per cent	0.13	0.4
Sligh oxidation mg. sludge/10 gm. oil	1.8	2.8

An extended bibliography accompanies this article.

References: A. M. McAfee, Chem. Met., 13, 592, 1915, and 42, 136, 1935; Ind. Eng. Chem., 17, 737, 1915. Brownlee, U. S. Pats., 1,309,432 and 1,374,277, May, 1918. Sullivan, Voorhees, Neely and Shankland, Ind. Eng. Chem., 23, 604, 1931.

Explosive Limits of Hydrocarbons As Related to Repressuring

The gas from our repressuring wells contains 50 to 80 per cent air with a B.t.u. value between 270 and 675. What percentage of air constitutes an explosive mixture on assumed percentages of methane, ethane, propane, butane, and pentane, for various temperatures and pressures that exist in gas distributing systems?—H. M. H.

It is not the percentage of air in a natural gas-air mixture that makes it explosive, but the gaseous components, such as methane, ethane, and other hydrocarbons. Air is not combustible; the hydrocarbons are; the oxygen in the air simply aids combustion. When the quantity of hydrocarbon gas in a mixture with air becomes so small that the mixture will not burn, then there is liable to be an explosive mixture. Just how much of any hydrocarbon, or several hydrocarbons, will intermingle with air to become explosive has been investigated many times and the quantity designated limits of inflammability expressed in percentage by volume. These limits for the *lower hydrocarbons* are shown in the table.

EXPLOSIVE LIMITS FOR HYDROCARBONS

	Per cent of gas in air	
	Low	High
Methane	5.3	14.0
Ethane	3.2	12.5
Propane	2.4	9.5
Butane	1.9	8.5
Pentane	1.4	8.0

The limits of inflammability or explosive limits of a substance are simply the lowest and the highest concentrations at which ignition can occur. We may define these limits as the limiting composition of a combustible vapor and air mixture beyond which the mixture will not ignite and continue to burn. For example, if the carburetor of an automobile engine is so set that the mixture is too lean there is not sufficient combustible matter (gasoline) present for ignition to occur. On the other hand if too much gasoline is drawn into the cylinder there is not sufficient oxygen present to support combustion. The leanest mixture at which ignition occurs is called the lower limit of inflammability, the richest explosive mixture the upper limit.

The explosive quantity becomes less as the molecular weight of the hydrocarbon increases. With this exception temperature is not important. The higher hydrocarbons must be heated before they will give off vapors sufficient to form explosive mixtures with air. Pressures have nothing to do with the conditions of explosion, except to make a mixture of the proper proportions more powerful. The ordinary conditions of temperature and pressure as met with in gas systems do not influence the reaction.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be enclosed.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Monosodium Phosphate

(Sodium acid phosphate)

Use—Water treating.

Form—Colorless powder and crystals.

Formula—$NaH_2PO_4.H_2O$.

Molecular weight—138.05.

Specific gravity—2.04.

Melting point—392° F.

Solubility—Cold water 112 in 100 parts, and hot water 448 parts in 100 of water.

LIMITATIONS

Purity, min., per cent	99
Iron, max., per cent	0.002

Odometers or Distance Recording Instruments for Motor Vehicles

What is the standard required for indicating odometers, as to distance indicated, as used on trucks, automobiles, and taxicabs, when operating in several states?—R. H. W.

An odometer is a device which operates automatically to register the distance traversed by the vehicle to which it is attached. In the United States such mechanisms, known as speedometers, register miles and tenths of a mile.

The states and the federal government unite, through the National Conference on Weights and Measures, in adopting specifications, tolerances, and regulations for the delivery of true measures. In most instances the state regulations are the same as those enforced by the U. S. Government.

The essential specifications for odometers in commercial use require that registration shall be caused only by rotation of the vehicle wheels. The mileage figures shall be easily read and the instrument shall be of permanent construction adapted to withstand ordinary usage.

The tolerances specified by the U. S. Department of Commerce is quoted: "The tolerances to be allowed on the registration of odometers with respect to distance actually traversed or computed shall be as follows:

"Tolerance in deficiency (over-registration): None, except when the vehicle tires are seriously worn, in which case 1 per cent of the interval under test shall be allowed.

"Tolerance in excess (under-registration): Four per cent of the interval under test."

Reference: National Bureau of Standards, Handbook H22, 1937, Specifications, Tolerances, and Regulations for Commercial Weighing and Measuring Devices, p. 21.

Specific Heat Means Capacity For Heat Compared With Water

What is the simplest procedure for determining the specific heat, with particular reference to lubricating oils?—G. B.

The specific heat of a substance is the ratio of its capacity for heat to that of water at 60° F., or the number of heat units necessary to raise the temperature of a given substance 1° C. If the heat required to raise the temperature of M grams of a substance from t_1 to t_2 °C. is H calories then the heat capacity, or specific heat of the substance is

$$S = \frac{H}{m\,(t_2 - t_1)}$$

A definition commonly used in the United States is that the specific heat of a lubricating oil means the quantity of heat required to raise the temperature of 1 pound of oil 1° F., as compared with that to heat 1 pound of water 1° F.

Thomsen gives these average specific heats for lubricating oils.

SPECIFIC HEAT OF LUBRICATING OILS

Type of oil—	Specific heat at 50°C.
Paraffin base low viscosity	0.49
Russian oils and high vis. paraffin oils	0.47
Many asphalt base oils	0.44

The value for all petroleum oils usually falls between 0.44 and 0.55, the fuel oils having the highest.

Reference: Thomsen, Practice of Lubrication, p. 43.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Construction of Good Concrete Floor Demands Special Care

In making a concrete floor is it necessary to follow any other rules than those usually followed in concrete work? That is, do you use the same kind of mixture that you do in making a concrete sidewalk? If there are any particular rules to follow I would be glad to know about them.—S. R. E.

The severe wear and abuse to which a floor finish is subjected demand that it receive special care in construction. Not only is there the abrasive action of foot traffic, but often the floor must withstand the sliding of heavy boxes and the steel wheels of loaded trucks. So durability is a prime requisite. To attain durability the following advice is given by L. H. Corning, structural engineer for the Portland Cement Association:

"The principles involved in good floor construction are simple but of vital importance. In the first place, it is necessary that the job specification be definite as to the quality of the aggregates, the quantity of mixing water to be used, the method of proportioning, the mechanical operations of placing and finishing and the protection of a newly placed floor until it has attained sufficient hardness for service.

"In a correctly built floor, tough, hard, durable aggregates are firmly held in a cement paste of high strength. These aggregate particles are at the surface of the floor and are the wear-resisting constituent of the concrete. Since the aggregates perform this important duty and represent about three-fourths of the mass of the hardened concrete, the necessity for proper quality can be readily appreciated. All aggregates should be clean and free from dust, clay, silt or foreign matter. New and untried aggregates should be carefully tested for durability before being used. Trap rock, granite, quartzite, gravel or limestone make excellent heavy duty floor aggregates.

"Grading of aggregates is as important as hardness and other physical characteristics. Poorly graded aggregates require an excessive amount of cement paste to fill the voids. A condition of this kind results in crazing and dusting of the surface and consequently a reduction in the wear resistance of the floor. Too much fine material necessitates a large quantity of mixing water and a high water-cement ratio means a low-strength, porous, nondurable concrete whether it is used for structural purposes or in a floor finish. To obtain the desired qualities in a concrete floor, select a fine aggregate consisting chiefly of grains from one-sixteenth inch to one-eighth inch size with not more than 5 per cent passing a 100-mesh sieve nor more than 15 per cent a 50-mesh sieve. The coarse aggregate should consist of particles from one-eighth inch to three-eighths inch in size with at least 95 per cent passing a three-eighths inch sieve.

"Job experience and tests by years of service rather than mere academic theory have proved that the wearing quality of a concrete floor is to a great degree influence by the proportions of cement, sand and coarse aggregate and the amount of mixing water, the latter being as important as any one of the other three. A concrete floor finish made with a large percentage of sand as compared with the quantity of coarse aggregate may work easily under the trowel but it will not be durable. The most satisfactory mixture for durability is one made of approximately one part cement, one part sand and two parts of coarse aggregate. Not more than 5 gallons of water per sack of cement should be added to these constituents including the free water in the aggregates which should be carefully determined and deducted from the specified quantity. Where mechanical methods of floating are employed an even smaller quantity of water may be used advantageously."

Acid Index for Limestone

Please send me complete and detailed information, or advise me where it can be found, concerning "Acid Index," that is, the laboratory determined relation of the action of acid on a sample of limestone.—H. B.

One definition of acid index is the ratio of permeability increase to weight loss and may be expressed as a formula in this manner:

$$\frac{\text{Percent permeability increase}}{\text{Per cent weight loss}} = \text{Acidizing index}$$

Assuming two formations which are acted upon equally by acid, the one increasing most in permeability per unit of acid will probably give the greatest increase per 1,000 gallons upon actual test.

Pressure Maintenance on Units

I read with great interest a condensed article from the Baltimore Sun in the last issue of the Reader's Digest on the application of pressure to producing formation by the return of compressed gas. This is supposed to increase ultimate recovery from the acreage drilled. Could you refer me to any articles or books on the subject of unitizing of fields and could you tell me how the recovery is apportioned to the various leases in a unitized field? I can easily understand the division of expense among the leaseholders but I cannot see how the problem is solved in the assignment of oil to the various leases when offset wells in the unitized field vary so much in bottom-hole pressure and volume of production which would indicate a smaller return from one lease as compared to the offsetting lease.—F. S. McG.

The problems outlined in your question have been discussed by committees of engineers, lawyers and others acting under the auspices of the American Institute of Mining Engineers and the American Petroleum Institute and the reports of those committees will answer all of the questions you propound. The Government has also solved many of those problems in Kettleman Hills and other fields where federal land is involved. It is not by any means as difficult to allocate production to the individual leases as you assume because as a matter of fact pressures and saturation of oil sands do not vary through such a wide range in the same fields.

If you have access to the various volumes of "Petroleum Development and Technology" issued by the Petroleum Division of the A.I.M.E. you will find ample reply to your questions and the mathematical formula set forth by various students of these problems.

Likewise you will find much of interest in the reports of the committees of the A.P.I. and also formula for allocating production.

Hugoton Gas Fields, Kansas

I am interested in securing all the facts I can about the Hugoton gas field in western Kansas. Can you give me reference to literature on this field?—D. M. I.

There have been several articles on the Hugoton gas field published by the American Association of Petroleum Geologists. One article on the district appears in the book "Geology of Natural Gas." There is another article in "Problems of Petroleum Geology" and one or two other articles in regular issues of the A.A.P.G. Bulletins, Volumes 17 and 19.

The following general statement of the Hugoton field is taken from a brief prepared by the State Corporation Commission of Kansas in the matter of establishing rules and regulations relating to the production, sale and conservation of natural gas in that field.

The Hugoton field is composed of an area of approximately 1,380,000 acres, located in Kearny, Finney, Grant, Haskell, Morton, Stevens and Seward counties, Kansas. The field also extends across the state line into Oklahoma. Based upon the similarity of many conditions observed in the Hugoton and Texas Panhandle gas fields engineers and geologists are of the opinion the Hugoton field of Kansas and the gas fields in the Panhandle of Oklahoma and Texas are all one common source of supply. The exact boundaries of the Hugoton field in Kansas are not definitely established due to lack of sufficient development.

Underlying the area described as the Hugoton field, natural gas is found in porous limestone and dolomite contained in the rocks of Permian age and found at an average depth of from 2,700 to 2,800 feet. The producing formation has a thickness of approximately 400 feet but in it are nonproductive streaks or lenses. As many as five such streaks have been encountered in some wells. Due to the fact there is no uniformity in the location of the nonproductive streaks and the fact that the reservoir pressure is similar in all of the producing zones within the producing formation, all of the producing formation constitutes one common source of supply throughout the entire field. No oil, water or sour gas has been encountered in the producing formation within this field located in Kansas.

On July 1, there were 265 gas wells which had an open flow in excess of 750,000 feet of gas with the exception of two wells and said wells had a combined open flow of approximately 1,500,000,000 feet of gas per day. Of the 265 gas wells 28 are not connected. The combined open flow of the 28 unconnected wells is approximately 175,000,000 feet daily. The gas produced and purchased to satisfy current market demand during the first six months of 1938 averaged approximately 2,104,845,000 feet per month or 70,161,500 feet per day as compared with an open flow of 1,500,000,000 feet per day.

Service on New Fields

FAIRBANKS FIELD, HARRIS COUNTY, TEXAS GULF COAST

Compiled by The Oil and Gas Journal

Approved name:

Fairbanks.

Geographic location:

The field is situated about 15 miles northwest of Houston, 2½ miles off of State Highway No. 6, centering in the George Ayers, J. Waugh, James Clarkson, Andrew Lawson and George Williams surveys.

Principal towns:

While the field is located only 2½ miles northeast of the small settlement of Fairbanks, it is served by supply houses at Houston which is only a 30-minute drive from the field.

History of development:

This area had been looked upon as a favorable prospect for several years, having been worked several times with geophysical instruments by various companies. On the strength of reflection seismograph and torsion balance work, Amerada Petroleum Corp. and Stanolind Oil & Gas Co. assembled approximately 6,500 acres. The leases were acquired on a half interest basis with operating control of the leases in charge of Amerada Petroleum Corp.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. started drilling operations on No. 1 E. W. Mills in November, 1937. Location was in the A. Lawson Survey, and the test was completed in January, 1938. The well was drilled into salt water sand at 6,860 feet, and cored to a total depth of 6,863 feet. Oil sand was logged in cores at 6,823-43 feet, and at 6,834-63 feet. Casing was cemented at 6,859 feet, and the well was completed through perforated casing at 6,838-52 feet, for an initial production of 675 bbls. of 38.8-gravity oil per day, flowing through a quarter-inch choke.

Geological markers of discovery well:

Production is from the Yegua formation, referred to by some as the Upper Saline Bayou formation. The Heterostegina was topped at 3,340 feet, Cockfield at 6,540 feet, Discorbis Yegua at 6,690 feet and the Epponides at 6,790 feet.

Trend of development:

The field has received an extensive drilling campaign with the trend of development following a north-south and southwest trend, about 1,800 feet east of the discovery well, with the most prolific part of the field centering in the George Ayers Survey.

Proven acres:

Approximately 1,500 acres have been proven and the producing area is not expected to exceed 2,000 acres. At the present time the field is approximately 2½ miles in length and about 2 miles in width.

Future development:

With a total of six dry holes, and practically all edge wells indicating a low structural condition, future drilling will be confined largely to inside locations. The field has been defined to the north by one dry hole with the other abandoned wells being located on the south and southwest sides of the structure.

Undrilled locations:

It has been estimated that approximately 120 more locations remain to be drilled.

Spacing program:

The Railroad Commission rule allows one well to 10 acres and so far no exceptions to this order have been granted.

Number of producing wells and drilling operations:

As of August 30, a total of 64 producers had been completed and nine active operations were reported.

Present owners of producing leases and number of wells:

Company—	Number producing wells
Amerada Petroleum Corp.-Stanolind Oil & Gas Co.	29
H. C. Adams	3
Gem Oil Co.	4
Housh and Thompson	2
Margay Oil Co.	2
Mortex Oil Co.	1
Showers & Moncrief	3
Skelly Oil Co.	2
E. L. Smith and Ownby Drilling Co.	6
H. E. Williams	5
Windsor Oil Co.	7
Total	64

Daily average production:

The per well allowable as set by the Railroad Commission is 63 bbls., and for the week ending August 30 was 3,467 bbls.

Ultimate recovery:

It has been estimated that the average per acre recovery will be 17,000 bbls., which gives the field an estimated ultimate recovery of 25,500,000 bbls. on the basis of 1,500 productive acres.

Accumulated production:

Through July the field had produced 1,067,400 bbls.

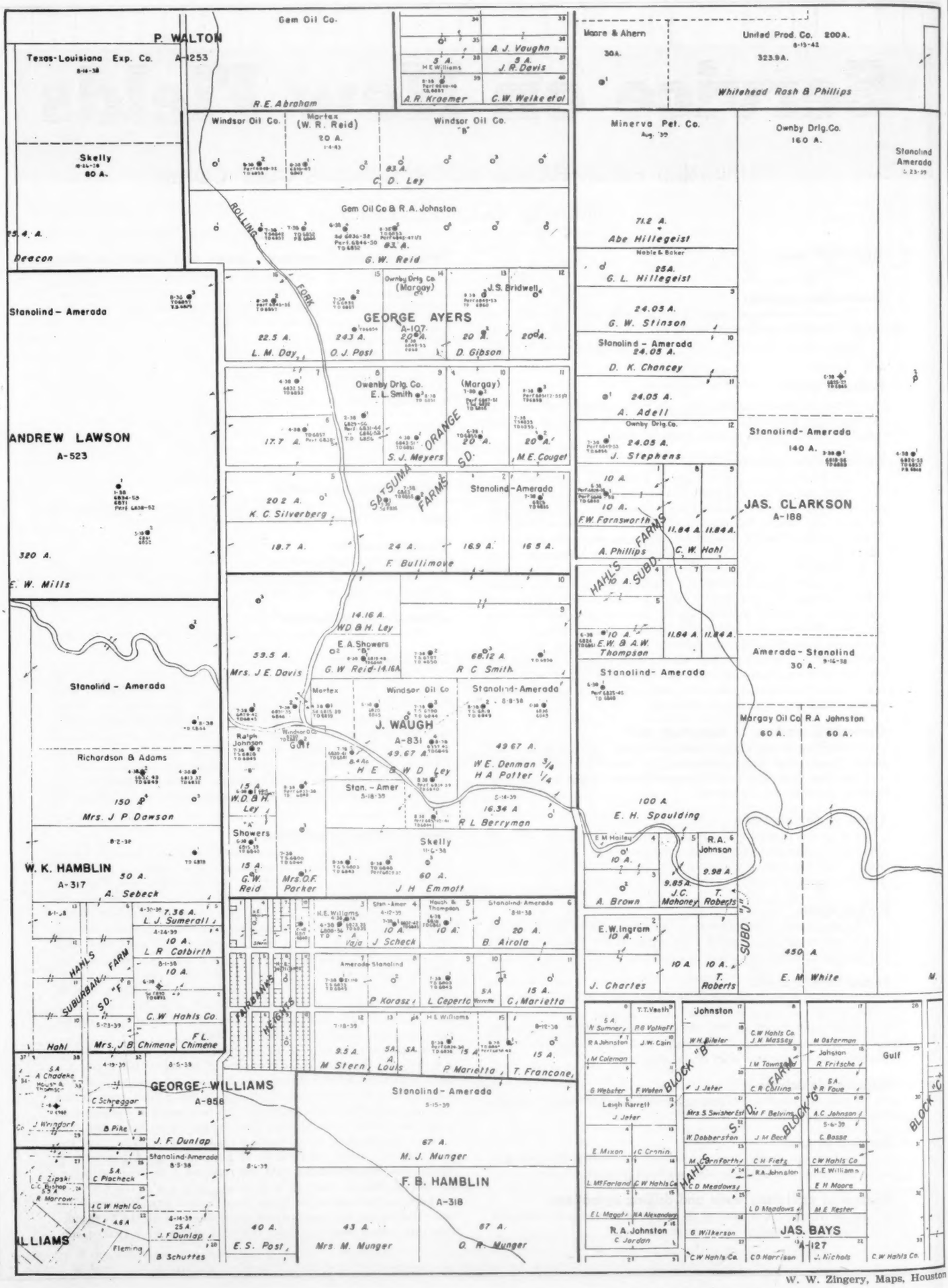
Type of structure:

The structure is believed to be closely associated with the Satsuma field, 2½ miles to the southwest, which is separated from Fairbanks by a fault or "graben" condition. Both fields are producing from a sand lens with production at Fairbanks controlled by faulting on the north and south. The trend of the south fault has not been definitely traced, but probably extends in an east-west direction through the F. B. Hamlin and George Williams surveys. With only one dry hole drilled on the north end, additional development will have to be done to determine the extent of faulting in this area.

Deeper drilling possibilities:

Prospects of deeper production being developed from the Lower Yegua is generally looked upon as favorable following the recent completion of Union Producing Co. No. 1 Goodykoontz, 1½ miles northeast of production in the W. S. Powell Survey. This well was drilled to a total depth of 7,617 feet, and flowed an estimated 20,000,000 cubic feet of gas and an unestimated amount of distillate through perforated casing at 7,125-85 feet. A series of drill stem tests from the total depth to 7,200 feet, showed pipe line oil in a few tests, but the company was unable to make a successful completion due to salt water intrusion. While this well may eventually prove to be separated from the field proper by a fault or graben condition, it has already led to the drilling of three deep outpost tests, on the north, southwest and east sides of the field.

Further development of the northeast and east sides of the field was forecast following the completion of Stanolind Oil & Gas Co. No. 1 Fritz Look, 4,000 feet east of production and approximately the same distance south of Union Producing Co. No. 1 Goodykoontz. This well was drilled to a total depth of 7,495 feet, and was completed in a new sand, believed to be the Upper Sabine Bayou formation. Production was obtained by perforating casing at 6,947-56 feet, and the well flowed 174 bbls. of fluid in 12 hours through a quarter-inch choke. Five per cent of the fluid was reported to be brackish water. In view of the fact that the well showed only gas in the 6,800-foot sand and gas and salt water in the Goodykoontz sand, it is generally believed that the well opens a new producing area for the Fairbanks structure, being separated from the field proper by a faulted con-



W. W. Zingery, Maps, Houston

dition. Additional development started by Stanolind Oil & Gas Co. on the Schumacher lease in the J. Doswell Survey, several hundred feet to the northeast, is expected to throw additional light on the potentiality of this new sand.

DRILLING

Type of drilling equipment:
All wells have been drilled with steam powered rotary rigs.

Casing program:
The surface string consists of 10¾-inch casing and is cemented from 1,000 to 1,300 feet, and 7⅛ or 5½ O.D. 17-pound casing is generally cemented on bottom with 400 to 500 sacks of cement.

Drilling time:
The average time for a completed well is from 14 to 15 days.

Drilling fluid:
Native mud is used to approximately 6,500 feet where it is necessary to add commercial muds to bring the mud weight up to a maximum of 9.8 pounds as a safety measure against an attempted blowout from the Upper Cockfield sand which is encountered uniformly at 6,700 feet.

Type of drilling bits:
It is a general practice to use fishtail bits and an average of nine bits are used per well.

Cost of drilling:
The average cost of a completed well is $25,000.

Completion methods:
Coring is started at approximately 6,800 feet and continues at intervals to the total depth. An electrical survey is made of the hole and the production string is then cemented. Due to the deposition of the oil sand which is interwoven with the gas cap, it has been found more satisfactory to cement the casing on bottom and complete by gun-perforating with four or five shots. This prevents gas from channeling down into the oil section which in most cases results in high gas oil-ratio wells. The wells are brought in by washing the hole with clear water and the flow is started through a three-eighths inch choke and gradually opened to a quarter-inch choke. All potential tests by the Railroad Commission are made through a quarter-inch choke.

Average sand thickness:
The maximum sand thickness including gas and oil is 60 feet with the oil section, depending upon the structural position of the wells, ranging from 5 to 25 feet.

Gas oil contact and water level:
The gas-oil contact has been determined at a minus 6,705 feet and the water level at a minus 6,746 feet.

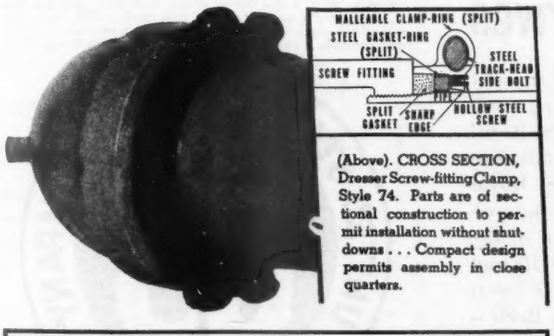
Average gas-oil ratio:
The average gas-oil ratio is approximately 600 to 1.

Pipe line outlets:
The field is served by Humble Pipe Line Co.'s 4-inch line extending southwest to the Satsuma field, where it ties into the company's main line pump station.

CRUDE OIL ANALYSIS

Tests on crude—		
Gravity		37.3
Sulfur		0.22
Tests on naphthas—	300 E.P.	400 E.P.
Per cent on crude	15.5	30.9
Gravity, A.P.I.	63.0	54.8
Octane number	64.1	47.0
Aromatics	9.0	12.0
Tests on minimum distillates—		
Per cent on crude		9.8
Ring number		43
Sulfur		0.05
Tests on lube blends—		
Range of cut		72.7-93.7
Gravity, A.P.I.		24.8
Flash, °F.		410
Viscosity at 210° F.		54
Viscosity index		54
Pour, °F.		95

END SCREW-FITTING LEAKS!



(Above). CROSS SECTION, Dresser Screw-fitting Clamp, Style 74. Parts are of sectional construction to permit installation without shutdowns . . . Compact design permits assembly in close quarters.

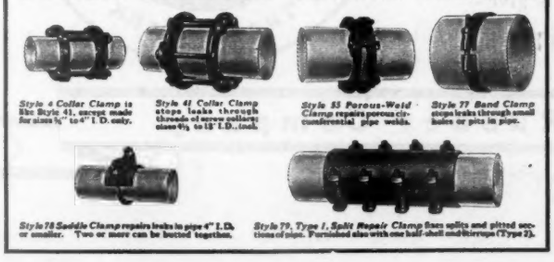
Leaks through the threads of screw fittings such as ells, tees, companion flanges, etc., may be quickly, economically, and *permanently* repaired without interruption of the service by the use of Dresser Screw-fitting Clamps, Style 74. These clamps also stop leaks where pipe screws into a drum or tank, and are suitable for high-pressure service.

DESCRIPTION. Each Style 74 Clamp consists of a few, simple, "factory-made" parts (see cross section), which are quickly assembled with only one tool—a wrench. Sharp inner edge on clamp ring serves as anchor. Gasket is compressed tight against threads by set screws.

SIZES. Style 74 Clamps are available in sizes 3" I.D. to 10" I.D., inclusive.

HOW TO ORDER. Give: (1) quantity; (2) nominal size and outside diameter of pipe; (3) style number; (4) service—contents of line; (5) maximum working pressure; and (6) type and dimensions of fitting to be clamped.

OTHER DRESSER REPAIR CLAMPS



Style 4 Collar Clamp is like Style 41, except made for sizes ¼" to 4" I.D. only.

Style 41 Collar Clamp stops leaks through threads of screw collars; sizes ⅛ to 18" I.D., inclusive.

Style 53 Porous-Weld Clamp repairs porous circumferential pipe welds.

Style 77 Band Clamp stops leaks through small holes or pits in pipe.

Style 78 Saddle Clamp repairs leaks in pipe 4" I.D. or smaller. Two or more can be bolted together.

Style 79, Type 1, Split Repair Clamp fixes splits and pitted sections of pipe. Furnished also with one half-shell and 2 stirrups (Type 2).

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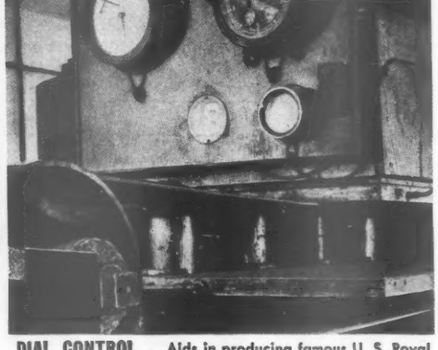

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FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—What may develop into an important field of exploration and development in the northwestern part of the state was given a start by Champlin Refining Co.'s wildcat in Section 4-24-8w, Garfield County. The well was not yet a completion but was flowed from the second Wilcox sand into pits, having gauged 129 bbls. of 44-gravity crude in two hours and 25 minutes, with gas at the rate of 2,240,000 feet per day. On Saturday and Sunday ending at 7 a.m. on Monday, October 3, the well flowed 871 bbls. the first 24 hours and 740 bbls. the second 24 hours, through casing. It is the most northwesterly producing well in the state. Champlin Refining Co. owns a considerable block of acreage around the well.

KANSAS—A north offset to a Lansing lime oil well in Section 8-18-9w, Rice County, opened Arbuckle lime production and a new pool. A test one-half mile northeast of the Richardson pool in Stafford County was swabbing 3 bbls. of oil hourly from Arbuckle lime. The Laton pool in Rooks County and the Ainsworth pool in Barton County were also extended a half mile.

TEX-LA-ARK—Four wells aggregating 2,100 bbls. initially, were completed in the Schuler field in Union County, Arkansas. A better-than-700-bbl. well was completed in the old Champagnolle field in Union County. The offset to the Shreveport, La., field discovery well looks like a producer. Cotton Valley, Louisiana's deepest test, was plugged back from 9,017 feet to the Bodcaw sand and completed for 201 bbls. of oil and 3,000,000 feet of gas per day. In the Gulf Coastal part of Louisiana new productive sands were discovered on two salt domes, one in Iberville Parish and the other in West Baton Rouge Parish. The development of production on coastal domes in Louisiana has added millions of barrels of crude reserves this year.

TEXAS—The Denver field in Yoakum County was given a 2-mile extension northwesterly by a 312-bbl. well. In Ward County's Estes pool, the largest producer reported in West Texas during the week was good for 2,260 bbls. the first 24 hours. The Goldsmith and Tubbs pools in Ector County were extended, as was the Keystone pool in Winkler County. In West Central Texas the Bryson pool in Jack County was extended a mile north and east.

CALIFORNIA—A tideland development which will mean the drilling of 177 wells, to be started on dry land, but the holes directed out beneath the Pacific Ocean opposite the Wilmington and Huntington Beach fields, was assured in the past week. The Southwest Exploration Co. will do the drilling in the Huntington Beach area and Signal Oil & Gas Co. in the Wilmington area.

ILLINOIS—Twenty completions in the Centralia field in Clinton and Marion counties and the Salem field in Marion County, yielded an initial average of 348 bbls. per well, mostly from the Benoist sand, a high average for that producing formation. An unusual number of dry holes and abandoned locations were reported from wildcat areas.

Completions in All Fields

(Week Ending October 1, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa., and W. Va.	30	16	5	51	2,811	3,451
Ohio	8	8	5	21	754	906
Indiana	1	0	0	1	71	70
Kentucky	12	0	13	25	671	477
Illinois	43	0	15	58	1,156	155
Michigan	13	1	7	21	649	588
Kansas	24	0	7	31	1,225	1,958
Oklahoma	19	0	14	33	1,314	2,078
Texas:						
North Central Texas	37	3	20	60	2,406	2,154
West Texas	41	0	4	45	1,496	2,053
Texas Panhandle	3	1	1	5	434	575
East Texas	26	0	0	26	1,457	1,780
East Central Texas	6	1	4	11	271	540
East Texas Border	2	0	0	2	109	270
Gulf Coast Texas	23	1	3	27	1,008	1,175
Southwest Texas	48	1	13	62	1,591	2,511
Total Texas	186	7	45	238	8,772	11,058
North Louisiana	7	7	3	17	491	496
Gulf Coast Louisiana	7	0	2	9	360	351
Total Louisiana	14	7	5	26	851	847
Arkansas	7	0	1	8	184	113
Montana	4	1	1	6	81	169
Wyoming	1	0	0	1	118	83
Colorado	0	0	0	0	9	17
New Mexico	8	0	0	8	425	560
Utah	0	0	0	0	2	2
California	11	0	4	15	989	1,148
Total United States	381	40	122	543	20,082	23,680
Total previous week	370	38	113	521		
Difference	11	2	9	22		

Outstanding Fields--Highlights

(Week Ending October 1, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	64	79	13	9,928	804	15,400
Wasson-Bennett	15	31	4	2,786	139	8,115
Ector County	7	70	9	4,771	1,287	40,450
Winkler County	7	13	6	5,905	1,705	35,900
Howard-Glasscock	8	23	3	2,752	1,009	13,550
OKLAHOMA						
St. Louis	11	29	5	1,799	696	24,225
Oklahoma City	5	8	0	0	1,092	95,175
KANSAS						
Barton County	2	20	3	3,178	366	10,817
Stafford County	2	17	5	7,077	178	4,531
Rice County	0	21	4	7,001	1,212	27,197
Russell County	3	29	2	2,244	1,136	22,765
NEW MEXICO						
Lea County	12	79	7	930	1,868	99,960
LA-ARK-TEX						
Rodessa, La-Ark-Tex	0	12	3	810	1,033	70,975
Cotton Valley, La. (deep)	3	18	1	200	90	11,205
Schuler, Ark.	3	26	4	1,960	98	24,940
Jennings, La.	1	15	0	0	120	25,212
MICHIGAN						
Overisel	5	10	6	2,608	43	3,600
ILLINOIS						
Central Illinois	36	295	43	8,100	*1,175	76,960
CALIFORNIA						
Wilmington	5	20	1	507	562	93,350
KENTUCKY						
Birk City	5	24	4	1,200	64	4,600

*Revised.

Illinois and Kentucky

By STAFF CORRESPONDENT

Steady Rise in Production in the Central Basin Area

MATTOON, Ill., Oct. 3.—The Central Illinois pools during the week ending September 28 produced a total of 76,960 bbls. per day. The production of the whole state for the same period was 88,086 bbls. per day.

Production by fields in the Central Basin fields was as follows:

Field—	Wells	Av. dly. prod.
Barnhill	4	347
Bartelso	30	483
Centralia	485	20,667
Clay City area	167	16,937
Cisne	13	3,517
Dix	21	774
Fairfield	26	2,652
Flora area	4	321
Ina	1	27
Louden	114	9,960
Noble	144	7,383
Olney	18	2,933
Patoka	105	2,117
Rinard	1	8
Salem area	42	8,834
Total	1,175	76,960
Old fields	....	11,126
Total Illinois	....	88,086

The Owensboro Pipe Line Co., increased the price it pays for oil in the more congested part of the Centralia area 5 cents per barrel, or from $1.10 to $1.15 per barrel. This makes Centralia's price $1.15 in the congested area and $1.25 in the northern part of the pool. The Wabash Pipe Line Co., Pure Oil Co. subsidiary, met the 10-cent reduction of the Owensboro Corp. and the Ohio Oil Co. in the state, making its new price $1.25 per barrel. Wabash buys in the deep part of the basin.

Illinois Fields

HIGHLIGHTS OF THE WEEK: Kingwood Oil Co. gets 1,000-bbl. well from McClosky lime in the Salem field, which has been producing from upper sands. Centralia's bottom price for crude has been increased 5 cents per barrel to $1.15.

Daily production of new pools is 76,960 bbls. and old pools 11,126 bbls., total 88,086 bbls.

Completed oil wells, 43; operations, including locations, rigs and drilling wells, 390.

Taking their cue from last winter, during much of which Illinois lateral highways were reduced to ruts and chuck holes by heavy hauling in bad weather, producers are hurrying to get all possible work done while hauling is possible under normal conditions.

Near Completions

In Fayette County, Hausman and others No. 1 Dora Townsend, SE cor. Section 12-7n-2e, had Cypress sand top at 1,522 feet. It tested 28 bbls. a day on the pump, but had not been completed. W. C. McBride, Inc., No. 1 H. S. Williams, SE SW NE Section 12-7n-2e, swabbed 80 bbls. of oil and 1 bbl. of water after a 10-quart shot at 1,565-75 feet, but the crew continued testing. Crosley Drilling Co. No. 1 Welke, NE NW NE Section 13-7n-2e, had Cypress sand at 1,558-64 feet, but water broke in from a formation at 1,575-77 feet, total depth 1,581 feet. The hole filled up 1,300 feet, 700 feet of which was oil and 600 feet water. The crew will plug back. Mulberry Oil & Gas Co. and Blackwell Oil & Gas Co. No. 1 Eliza Reed, NE cor. SE Section 31-7n-3e, had Weller sand at 1,552-73 feet, total depth. Seven-inch casing was set at 1,551 feet. The well was swabbed 12 hours and produced 400 bbls. of oil, and was then put on the pump.

In the Olney pool in Richland County, J. V. Wicklund No. 3 Sager, SW NE SE Section 22-4n-10e, swabbed 180 bbls. of net oil in 24 hours following a re-acidization with 5,000 gallons. Five and one-half inch casing had been set at 2,993 feet. Sylvester and others No. 1 Miller, NW SW SW Section 26-4n-10e, total depth 3,137 feet, was acidized with 1,000 gallons and an oil load, and then with 5,000 gallons. The well flowed 41 bbls. in one head and then died. Preparations were being made to put it on the pump.

In Clay County, Pure Oil Co. No. 3 Hubbel, C S half SE SE Section 8-2n-8e, total depth 3,090 feet, with 5½-inch casing set at 2,987 feet, was given a 5,000-gallon acid treatment and swabbed 56 bbls. gross in 11 hours. Swabbing was continued.

In the Salem area of Marion County, Superior Oil Co. No. 1 Luttrell, SW SE SE Section 4-1n-2e, had McClosky top at 2,087 feet and was coring at 2,148 feet. It had showings in the upper Mississippian formations but did not test them. Texas Co. No. 1 Carr, NW NW NE Section 5-1n-2e, was drilling at 1,764 feet in a hole full of oil. H. H. Weinert No. 2 Foster, NE SE SE Section 7-1n-2e, flowed 30 bbls. in eight hours from Benoist sand at 1,794-1,828 feet, but was still testing.

Wildcat Drilling

The week's survey of wildcat drilling operations developed the following wells and their status when visited:

Fayette County

Longoria No. 1 Brasch, NE NE SW Section 1-5n-1e, rotary derrick (first report); Hurricane Creek Oil &

Birk City's Four Completions Good for 1,200 Bbls. Daily

OWENSBORO, Ky., Oct. 3.—Twelve oil wells and 13 dry holes were completed in the Western Kentucky fields in the past week. Four of the oil wells were McClosky lime wells which aggregated 1,200 bbls. in initial production. Most of the dry holes were shallow sand tests in scattered pools.

The Ohio Oil Co. followed the Fordsville Gathering System in reducing the price of Western Kentucky crude last week lowering the price to $1.20 per barrel.

The Birk City pool, which is the largest potential producing area in the state, is steadily spreading out. The Imperial Oil & Gas Products Co. test on the Frank Mauzy tract is an outpost between the Birk City field and the old shallow Niagara pool in Henderson County. It is good for 50 bbls. a day naturally. It was started as a McClosky lime test but was completed in the Jett sand, and another test started for the McClosky.

A well will be started in October on the 1,876-acre Green farm, the property of Henry P. Barrett. The leases conveyed three blocks of land totaling 320 acres to the Bur-Kan Petroleum Co., of Tulsa, which in turn assigned the acreage to the Gulf Refining Co. Under contracts contained in the leases, a well must be started within 60 days after August 13 of this year. A lease covering another 80-acre section of Mr. Barrett's land was conveyed to the Bur-Kan company, the Blackwell Oil & Gas Co., and Helmerich & Payne, Inc.

The 240-acre H. A. Jones farm has been purchased by W. E. Hupp and others for a consideration of $12,000, half cash and half oil, if produced. It adjoins the Bertie Gibson lease on which Imperial Oil & Gas Products Co. completed a good well in the McClosky lime in the past week. The new owners must start a well within 30 days and must drill four wells by January 1, 1939.

Phillips Petroleum Co. will drill on its block in the Cairo district, and the Texas Co., Pure Oil Co., and the Core Drilling Co. are moving into the Henderson section.

Birk City Completions

In the Birk City field in Daviess County, Benedum & Trees completed a dry hole at 2,000 feet, its No. 3 Mrs. W. S. Calhoun and others. Jess Ashby and others No. 2 Mrs. C. E. Jagoe Estate is a 200-bbl. well in McClosky lime, total depth 1,890 feet. Aetna Oil Service Corp. No. 3 Morrison Estate started at 300 bbls. from pay at 1,839-76 feet, total depth 1,888 feet. Major Oil Co. No. 1 Straney got pay at 1,841-80 feet, total depth 1,910 feet, and made an estimated 200-bbl. initial production. Carter Oil Co. No. 1 Mrs. Lillie M. Wimsatt was dry in the McClosky, total depth 1,828 feet, and the company will try to make a Bethel sand well of the test.

On the Henderson County side of the field, Imperial Oil & Gas Products Co. and others No. 1 Bertie Gibson swabbed 500 bbls. in 24 hours from McClosky lime.

Carter Oil Co. had two near completions in No. 1 Ollie Benham 20 acres which cored McClosky lime at 1,895-1,901 feet, total depth 1,908 feet, and No. 4 F. Dempwolf west tract which cored McClosky at 1,840-58 feet. Casing was set in both wells and the crews were waiting for cement to set before drilling in.

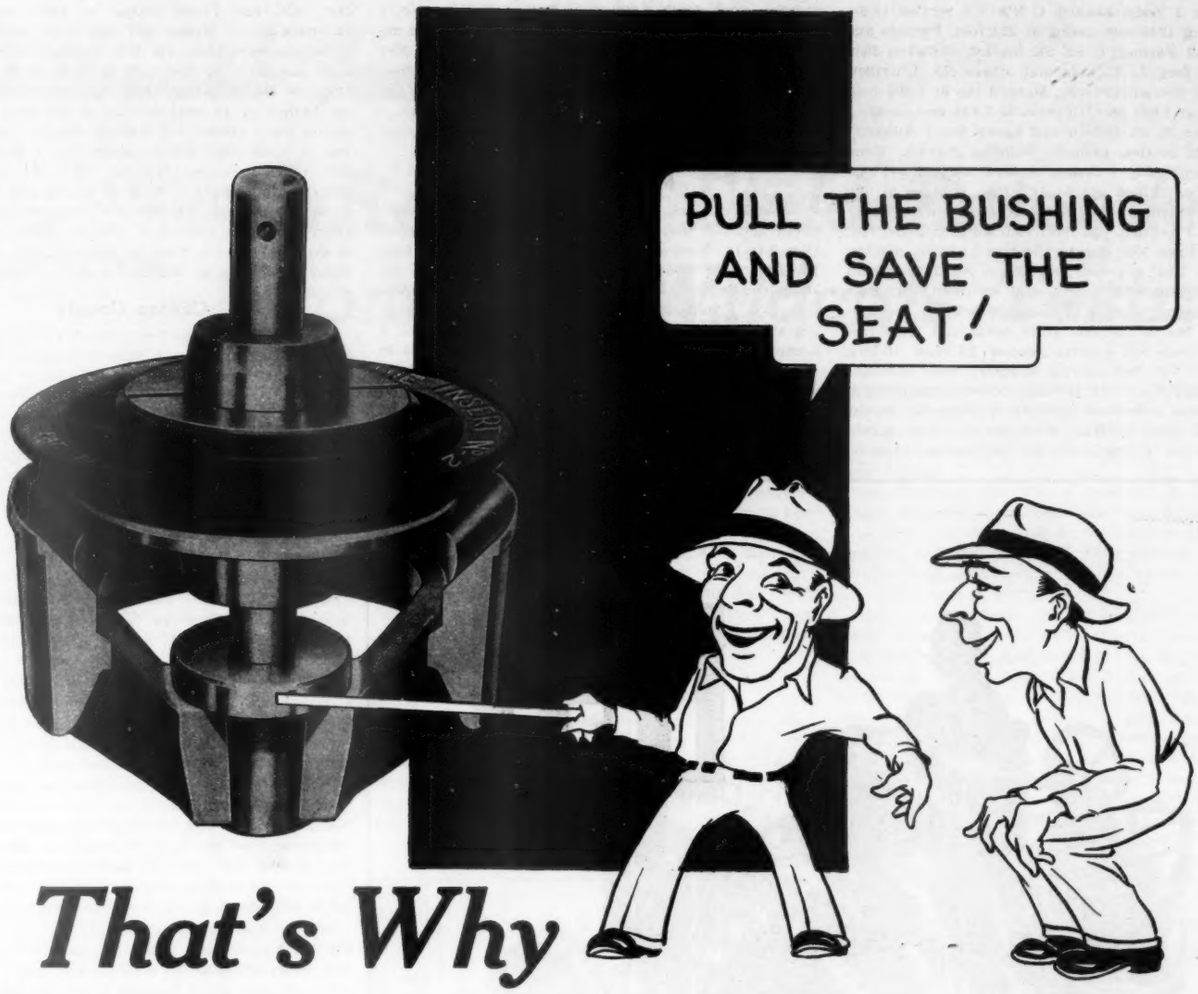
W. H. Albaugh and others abandoned No. 1 Harry Gregg at 175 feet. Aetna Oil Service had a good oil showing in Jett sand in No. 1 James Priest, but was drilling to the McClosky.

The completions together with new operations in Western Kentucky were as follows:

In Breckinridge County, Glen Dean district: Vernon C. Hastings and others No. 2 E. A. Moore, drilling at 250 feet; Ray Cooper and others No. 2 Earl Moorman, 5-bbl. well in Bethel sand at 210-15 feet, total depth 227 feet.

In Butler County, Mount Zion School district: Dr. Henry Smith and others No. 3 Jess Arnold, spudding in; Barnsdall Oil Co. No. 2 E. G. Harper, west tract, 25-bbl. well in Jett sand at 171-80 feet; Cumberland Petroleum Co. and others No. 5 E. V. Harper, east tract, 20 bbls. initially from Jett sand, total depth 179 feet; J. F. Breslin and others No. 1 Porter Harper, dry hole through Jett sand, total depth 335 feet; Sam Gish and others No. 1 Kirtley Heirs, dry hole through Jett sand, total depth 225 feet. Brooklyn district: Porter Evans and others No. 1 M. Embry, rigging up. Silver City district: Snowden & McSweeney and others No. 1 O. L. Grubb, dry hole in Bethel sand, 355-61 feet; J. C. Miller, trustee, No. 1 Martha A. Hawes, 20-bbl. well in Jackson sand, total depth 550 feet; and No. 2 Hawes is

(Continued on Page 90)



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Gas Co. No. 1 Eddie Eckard, C NW NE Section 15-6n-1w, resetting 12½-inch casing at 222 feet; Putnam and others No. 1 Farmer, C SE SE Section 35-6n-1w, fishing at 180 feet; L. C. Cole and others No. 1 Grider, NE SW SW Section 12-6n-3e, Menard top at 1,490 feet, Glen Dean at 1,684 feet, Cypress at 1,838 feet, drilling at 1,870 feet; F. H. Brown and Lacey No. 1 Albright, SE NW NE Section 19-6n-3e, building derrick; Mamouth & Murphy No. 1 Cooper Neal, C SW SE NE Section 32-6n-3e, 10-inch set at 107 feet, drilling at 450 feet (first report); Katcherside & Fisher No. 1 Quigle and Freeburg, 600 feet from south and 190 feet from west lines NW quarter Section 11-7n-2e, drilling at 200 feet; L. C. Simmell and others No. 1 Workman Estate, 250 feet from south and 85 feet from west lines SE quarter Section 26-7n-2e, derrick up; Ruwaldt & Johnson No. 1, 320 feet from north and 1,305 feet from east lines NE quarter Section 28-7n-3e, 10-inch casing set at 100 feet, moving in rotary tools; Katcherside & Fisher No. 1 Nellie Ross, 200 feet from north and 2,640 feet from east lines NE quarter Section 26-8n-1w, total depth 877 feet, shut down; Wesley Hayes and others No. 1 Thull, SE SW SE Section 14-8n-1e, fishing, total depth 1,000 feet; Robert Garland No. 1 Miller, SE cor. SE SW Section 34-9n-2e, moving in rotary; Whisenant and others No. 1 Zanders, SW SE NW Section 36-9n-3e, shot with 40 quarts at 1,560-70 feet, pumped 120 bbls. of salt water with showing of gas and a small showing of oil; W. D. Anderson No. 1 Hacer, NE SW SW Section 27-8n-4e, location (first report).

Marion County

Gray & Blalock No. 1 Doctor Welch, 100 feet from north and 250 feet from east lines NW quarter Section 2-1n-1e, Marion County, shut down at 900 feet; Hansky No. 1 Yoos, NW NE NE Section 6-1n-1e, set 10-inch casing at 578 feet, drilling at 775 feet; Gardenshire No. 1 Mercer, SW NE SE Section 12-1n-1e, drilling at 1,940 feet; Superior Oil Co. of California No. 1 Luttrell, SW SE SE Section 4-1n-2e, Cypress sand at 1,740 feet, Bethel sand at 1,888-1,910 feet, Roseclaire at 2,054 feet, McClosky lime at 2,087-95 feet, total depth 2,148 feet, drill stem test with packer set at 2,074 feet and open 1 hour and 45 minutes, recovered 75 feet of fluid but no water, running Schlumberger test, will run 7-inch casing to 2,083 feet; Duncan Brothers No. 1 Myers, 495 feet from north and 660 feet from west lines SW NW Section 34-1n-2e, set 10-inch casing at 80 feet and drilling at 1,150 feet; J. Baucher No. 1 Cattani, NW NE SE Section 10-1n-1e, set 10-inch at 40 feet, drilling at 600 feet; Boyce and others No. 1 Foster, NE NW SE Section 10-2n-1e, drilling at 1,040 feet; Oil Royalties No. 1 Suggs-Meeker, SW NW NW Section 11-2n-1e, set 8-inch casing at 1,260 feet, total depth 1,385 feet; Newman & Brooks No. 1 Walter Neilson, NE SW NW Section 20-4n-2e, Glen Dean topped at 1,000 feet, drilling ahead; Wigico Oil & Gas Co. No. 1-A Nichols, SW cor. NW SW Section 22-4n-2e, drilling at 800 feet.

Clinton County

Watkins & Wright No. 1 Wise, 75 feet from north and 600 feet from west lines SE quarter Section 24-1n-3w, total depth 1,140 feet, 300 feet of water in the hole, will run sand line; Martin and others No. 1 Reussing, SW SE NE Section 35-1n-5w, set 12-inch casing at 106 feet and drilling at 602 feet; Sappington and others No. 1 Hilgeman, SE NE NW Section 23-3n-4w, drilling at 1,080 feet; White and others No. 1 Wilten, SW SE NW Section 19-3n-2w, rigging up machine (first report).

In 21 Other Counties

In Lawrence County, C. E. Forman No. 1 W. H. Thompson, 230 feet from south and 500 feet from west lines NW quarter Section 22-2n-12w, location; Rockstead No. 1 Ulrich, SE SW NE Section 20-3n-13w, drilling at 130 feet.

In McDonough County, W. I. Cole and others No. 1 Williams NW NW SE Section 6-4n-4w, of fourth meridian, drilling at 420 feet.

In Richland County, Pure Oil Co. No. 1 F. L. Wakefield, C W half NW NE Section 26-4n-9e, total depth 3,003 feet, plugged back to 2,590 feet and cemented with 55 sacks, waiting for cement to set, Weiler sand lies at 2,564-82 feet, lower Mississippian formations noncommercial in their oil showing; Stewart No. 1 Ross Cable, NE NE NE Section 26-9n-9e, McClosky lime test, set 10-inch casing at 100 feet and drilled to 1,475 feet where it was shut down for repairs.

In Fayette County, Carter Oil Co. No. 1 Tennery, SW SE SW Section 31-9n-4e, total depth 1,652 feet, was plugged back to 1,567½ feet and put on the pump. It pumped 10 bbls. of oil and 85 bbls. of water in 24 hours. The oil tested 34 degrees in gravity at 68° F. Weiler sand was topped at 1,558-91 feet. Bethel sand at 1,637-52 feet was dry and salty.

Swords and others No. 1 Ohiman, SW NW NW Section 10-10n-1w, Montgomery County, has started drilling. Sam Graham and others No. 1 Fikan, C NE NE SE Section 27-11n-1w, was drilling at 400 feet.

In Shelby County, Frank Frederick and others No. 1 Fluge, near C W half NE NW Section 34-10n-5e, had cellar and pits dug. O. J. Connell No. 1 Chris Laeding, SE SE NE Section 30-11n-5e, topped Paint Creek at 1,811 feet, total depth 1,827 feet. Prunty Production Co. No. 1 Hickey, C SE SW SW Section 34-12n-4e, had machine on the ground.

In Cumberland County, Phillips Petroleum Co. No. 1 George Ozee, NE SE NE Section 27-11n-8e, set 10-inch casing at 100 feet and was drilling at 1,125 feet.

In Coles County, Thompson Drilling Co. No. 1 Degler, SE SE NE Section 9-12-7e, set 10-inch casing at 85 feet and was drilling.

In Moultrie County, Ralph Neely and others made location for No. 1, C NW NE Section 18-13n-6e.

In Edgar County, A. M. Myers No. 1 Brinkerhoff, C SE SE Section 26-13n-13w, set 8¼-inch casing at 619 feet, drilling at 918 feet. Pearcey and others No. 1 Blair, NW NE NW Section 24-14n-14w, McClosky at 232-46 feet with a show of oil and gas, total depth 425 feet. Mabee Consolidated Corp. and others No. 1 Oakland Bank, NW NW NE Section 31-14n-13w, shut down at 1,130 feet. E. Lapsley No. 1 Roll, SW SW NE Section 17-14n-13w, Mississippi lime at 300 feet, McClosky lime at 305-20 feet, set 6-inch casing at 300 feet, shut down for repairs at 601 feet.

In Clark County, H. R. Snavely No. 1 Sol Hardy, 50 feet from north and 1,020 feet from east lines SE quarter Section 17-11n-12w, preparing to spud.

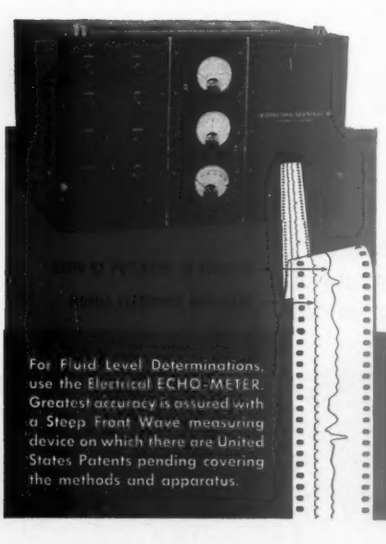
In Morgan County, Alexander Oil Co. No. 1 Gray, 800 feet from west and 1,050 feet from south lines Section 25-15n-9w, Ste. Genevieve lime at 310-75 feet, show of oil at 375-85 feet, drilling at 445 feet.

In Champaign County, Sidney Oil & Gas Co. No. 1 Wendling, 1,570 feet from south and 450 feet from east lines of SE quarter Section 10-17-10e, rigged up and shut down. Barner & Seiver No. 1 Lindsey, C NW

(Continued on Page 106)

Continuous ELECTRICAL PROFILING provides ACCURACY, SPEED and DEFINITE RESULTS at a surprisingly LOW COST

Sole Licensees under JAKOSKY Patents, U.S. Nos. 2105247, 2015401 and 1906271 ...Canadian Patent No. 374475. Other U.S. and Foreign Patents Pending Covering Apparatus and Method.



For Fluid Level Determinations, use the Electrical ECHO-METER. Greatest accuracy is assured with a Steep Front Wave measuring device on which there are United States Patents pending covering the methods and apparatus.

Southwest Texas District

By F. L. SINGLETON

LaReforma Field Extended; Promising Wildcats Testing

CORPUS CHRISTI, Tex., Oct. 3.—Scheduled production tests on two promising wildcats in the Laredo and Balcones Fault Line districts held the attention of operators in the Southwest Texas district.

In the northwest corner of Starr County, Hagan, Stewart and others were running 5½-inch casing preparatory to testing No. 2 Salinas after sand with an oil odor was cored at 1,658-60 feet. Several attempts to make a drill stem test of the sand section failed and it was decided to run casing for completion after side wall cores and an electrical coring survey showed saturated sand at 1,644-60 feet. The sand is believed to be the Government Wells and corresponds with that of the Cuevitas field. The well is located in the La Sarotosa Antonio Canales Salinas Grant, 1,756 feet northeast of a dry hole, abandoned at 2,019 feet.

The LaReforma field, northeastern Starr County and on the Frio-Vicksburg trend, was extended 1,900 feet to the southwest as Magnolia Petroleum Co. No. 1 Guerra flowed an unestimated amount of gas and distillate while cleaning into the pits through a 5/32-inch choke, under a tubing pressure of 1,950 pounds and casing pressure 2,050 pounds. This is the second producer completed on the structure, which is about 6 miles northeast of the newly opened Sun field, and about 10 miles southeast of the Kelsey field in Jim Hogg County.

Deep Distillate Production

In the Mercedes field, Hidalgo County, Union Sulphur Co. established distillate production from the deepest producing horizon in Southwest Texas with the completion of No. 11 American Rio Grande, approximately 1½ miles northeast of the discovery well. This well has been in process of completion for several weeks. It was drilled to 9,618 feet, and completed through perforated casing at 8,845-50 feet, for an initial production of 24 bbls. of 51-gravity distillate per day, flowing through a three-eighths inch choke under a tubing pressure of 1,750 pounds. The well may be killed and recompleted at 8,880-85 feet, where it flowed 40 bbls. of 47-gravity oil and 8,000,000 feet of gas through a three-eighths inch choke, or additional tests may be made up the hole, as an electrical survey has indicated several sands all of which are in the Vicksburg formation. The main pay in the field ranges from 7,400 to 7,500 feet.

Another deep test in Hidalgo County which has attracted much attention is Phillips Petroleum Co. No. 1 Rafel Flores, Share 250, Porcion 39, about a quarter mile north of the Samfordyce field, which is drilling ahead below 8,575 feet. Several showings of oil and gas have been logged below 2,800 feet, and the showings are expected to be tested if the well fails to find production in the lower Jackson series. Other wildcats which are nearing critical depths, are Wheelock & Collins No. 1 Temple Lumber Co., 1½ miles southwest of Sun, drilling below 7,250 feet, and R. E. Harding and others No. 1 Car, located near the McAllen townsite, drilling in shale below 6,734 feet.

Frio County Prospect

In the Balcones Fault Line district, Humble Oil & Refining Co. was preparing to complete No. 1 Schley, a prospective pool opener, 3½ miles southwest of Schattel in the Joseph Travalder Survey 174, Frio County. The hole is being plugged back in the Austin chalk after a 20-minute drill stem test in the Edwards lime at 5,271-5,304 feet recovered 396 feet of sulfur water and 30 feet of oily mud with a slight blow of gas. On a recent drill-stem test in the Austin chalk at 4,720-85 feet, 2,500 feet of pipe line oil was recovered.

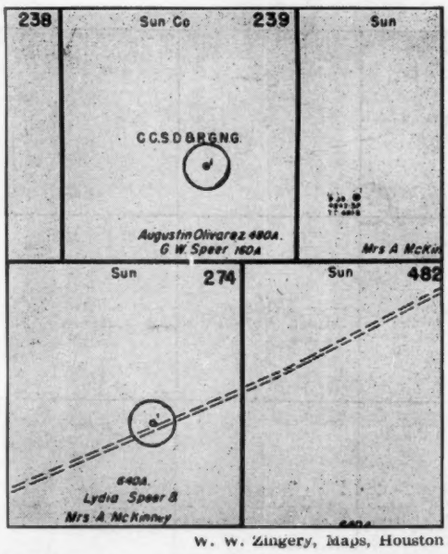
In Bastrop County, Paul Texas No. 1 Grizzard, an Edwards lime test 8 miles southwest of Smithville, in the Andrew Graham Survey, loomed as a dry hole as a 15-minute drill stem test at 7,088-23 feet tested on thribble of mud cut with a slight show of oil and gas with a taste of salty sulfur water. The hole is bottomed at 7,123 feet. Two miles west of Sayersville in the John Crutchfield No. 12 Ira Brown has staked location for No. 1 T. W. Bailey.

W. D. Walton and others No. 1 Ray, A. S. Mangum Survey, Bee County, is being watched with interest. Sand showing oil was cored at 3,209-10 feet, and shale and sand with an odor of oil at 3,234-44 feet and at 3,250-68 feet. The Hockiyensis was topped at 3,268-74 feet.

Extending East Premont

The East Premont field, Jim Wells County, was being extended 1,320 feet as Magnolia Petroleum Co. prepared to complete No. 10 Seeligson. Sand showing oil and gas was cored at intervals at 6,598-6,602 feet, total depth, and 7-inch casing was cemented at 6,598 feet.

Three miles west of Sinton, San Patricio County,



W. W. Zingery, Maps, Houston

Sun field, Starr County, showing discovery well and location of two important active outpost tests

Illinois Petroleum Co. No. 1 Wilson was coring shale below 6,690 feet. A 12-minute drill stem test at 5,312-37 feet recovered 2,250 feet of salt water, with no show of oil or gas.

Three wells were being completed in the West Saxet field, Nueces County. Renwar Oil Corp. No. 15 Harrington, perforated casing at 3,848-57 feet and is flowing an estimated 5 bbls. of oil per hour through a three-sixteenths inch choke. Phillips Petroleum Co. No. 6 McKinzie, while being cleaned out, was flowing an estimated 15 bbls. of oil and wash water per hour through perforated casing at 5,814-18 feet. Rand Morgan No. 10-C fee, cored sand at 3,856-68½ feet, the total depth, and 7-inch casing was cemented on bottom.

Another attempt to open production from a deeper sand in the Saxet Heights field, Nueces County, failed, as Southern Minerals Corp. No. 3 Alkaliplant, cored ahead after a drill stem test at 5,070-85 feet, recovered 720 feet of oil and salt water with 245 pounds of working pressure. Sand with an oil and gas odor was cored at 5,077-80 feet and at 5,080-85 feet. This 5,000-foot horizon has been tested in several wells, but all were failures.

The Saltmount Oil Co. is reported to have purchased 166 acres in the Benavides field, Duval County, from Gravis & Doran, for a consideration of $400,000 cash and $177,000 out of oil. The purchase included 10 producing wells located on the Vaello Puig tract in the San Andres grant.

Distillate production on the southeast side of the South Alice field, Jim Wells County, was extended 1,400 feet with the completion of Pan American Production Co. No. 2 Cook. Casing was perforated at 5,300-5,305½ feet, and the well flowed 11 bbls. of distillate through various chokes. Tubing pressure was 750 pounds and casing pressure 2,175 pounds. In the southwest extension area, three producers were added to the field. Blanco & Buchanan No. 2 Rattan flowed 165 bbls. in 12 hours through a three-sixteenths inch choke with 1,000 pounds casing pressure and 900 pounds tubing pressure. H. H. Howell No. 1 Stillwell perforated casing at 5,276-91 feet and flowed 142 bbls. daily through an eighth-inch choke. Robert Bowles completed No. 1 Rattan at 5,274-80 feet for an initial production of 100 bbls. in eight hours, flowing through a three-sixteenths inch choke.

Barnsdall Finds New Sand

Barnsdall Oil Co. opened production from a new sand which extended the Keran field, Victoria County, approximately 4,500 feet to the northwest. Bottomed in a sidetracked hole at 7,013 feet, production was obtained by perforating the casing at 7,002-10 feet, and the well flowed 5 bbls. of 39.2-gravity oil per hour through a 5/32-inch choke. Working pressure on the tubing was 1,100 pounds and shut-in casing pressure 800 pounds. This is the deepest Frio production in Victoria County and opens the way for deeper drilling along this trend.

Geophysical Service, Inc., No. 3 Rooke, a north offset to the discovery well of the LaRosa field, Refugio County, was attempting to make a drill stem test in sand at 5,806-13 feet, which is the producing zone of No. 1 Rooke, the discovery oil well. Sand with a distillate odor was cored at 5,565-84 feet, and on a 7-minute drill stem test at 5,577-84 feet, it tested 275 pounds of working pressure and 20 feet of mud and distillate. Geophysical Service, Inc., No. 1 Spaulding, a northeast offset, is drilling below 5,000 feet, while Rutherford Oil Corp. No. 1 Schirmer is drilling below 3,900 feet.

SOUTHWEST TEXAS COMPLETIONS

Aransas County

McCampbell field: Seambia Production Co. No. 1 McCampbell Estate, 7,206 feet, 40 bbls. fluid, 50 per cent oil, balance salt water. Bagdad Oil Co. No. 1-B Murray, 7,305 feet, abandoned. Frank Grote No. 1 Tedford, 7,149 feet, 487 bbls., three-sixteenths inch choke.

Bee County

Plummer field: Anna Oil Co. No. 2-A J. V. Smith, 3,037½ feet, 28 bbls., 9/64-inch choke.

Caldwell County

Branyon field: Coffield & Robinson No. 6 Young, 1,502 feet, small gas well. C. H. Mee No. 5 Lancaster, 2,341½ feet, 20 bbls. oil, 700 bbls. water, pumping. Ralph Ogden No. 4-A Lackey, 2,583 feet, 70 bbls., pumping. Luling field: Magnolia Petroleum Co. No.

(Continued on Page 93)

Rocky Mountain Area

By
T. R. INGRAM

Vacuum Field in Lea County Promised Another Extension

DENVER, Colo., Oct. 3.—Colorado reported two new operations, one on the Willow Creek structure in Moffat County, northwestern part of the state, and one in Las Animas County, 3 miles north of the New Mexico line, on the Branson dome. There were no completions.

In Wyoming, Yale Petroleum Co. released location for a well on the Garland dome, Big Horn County; Stanolind Oil & Gas Co. is starting its first well in several years in Elk basin to go to the Dakota; and Osage had three new operations. Ohio Oil Co. will try directional drilling in its No. 2-A Baker at Oil Springs in attempt to contact the gas pay at higher level. Moore and Maupin's test 18 miles southwest of Lance Creek, has water in the Minnelusa.

Montana had one completion in Cut Bank, an average oil well; and five in Kevin-Sunburst, of which two were above the average, one a dry hole and one a gas well. There were two new operations in Cut Bank and one in Kevin-Sunburst.

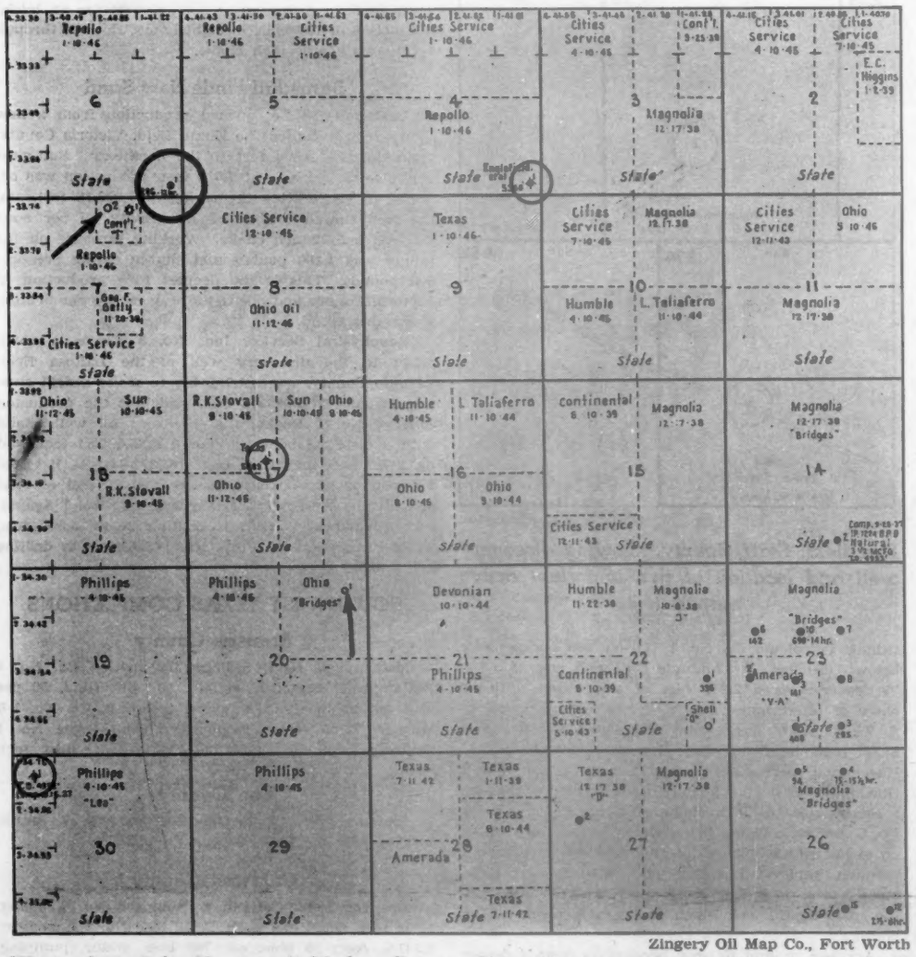
The Union Oil Co. of California abandoned its Nebraska test.

NEW MEXICO

Two extension tests in the Vacuum area held interest of southeastern New Mexico operators the past week. One of them, Ohio Oil Co. No. 1 State-Bridges, C NE NE Section 20-17-34, gave promise of widening the northern end of the Vacuum pool 2 miles to the west. At total depth of 4,755 feet in lime it swabbed a small amount of oil naturally, was acidized and swabbed from 5 to 10 bbls. of oil an hour through tubing. It was reacidized two times and production was increased to 15 bbls. an hour, cutting 20 per cent acid water. Gas was estimated at 250,000 feet daily. It was shut in.

Two miles southeast of the pool, Helmerich & Payne, Inc., and Continental Oil Co. No. 1-G-36 State, C NW SW Section 36-17-35, was deepening from 4,920 feet and at 4,950 feet oil was reported to have risen 500 feet in the hole while drilling. It had shown for small production at 4,920 feet, but operators decided to deepen in quest of richer pay.

Seven or eight new wells completed in southeastern New Mexico the past week were in Lea County, the other being in Eddy County. Two old Lea County wells were deepened and recompleted. Lea County completions were:



Zingery Oil Map Co., Fort Worth

West edge of the Vacuum field, Lea County, New Mexico, and extensions to the field. Arrows indicate tests now under way; large circle a recent completion and small circles, dry holes

Texas Co. No. 3 Black, C NW NE Section 21-24-37, topped pay at 3,366 feet, total depth 3,600 feet in lime, plugged back to 3,495 feet and flowed 75 bbls. of oil daily through tubing. Gas gauged 3,000,000 feet.

Skelly Oil Co. No. 1-M State, C SW SW Section 32-24-37, flowed 189 bbls. of oil through tubing in nine hours from pay topped at 3,420 feet, total depth 3,560 feet. Volume of gas was 500,000 feet.

Phillips Petroleum Co. and Pure Oil Co. No. 3 Woolworth, C E half SE SE Section 33-24-37, found pay at 3,500 feet, was bottomed at 3,525 feet, and flowed 20 bbls. of oil an hour through one-half inch choke. It produced 540,000 feet of gas.

Continental Oil Co. No. 1-B-1 Lockhart, C SW NW Section 1-22-36, had pay at 3,765 feet, total depth 3,825 feet, and flowed 100 bbls. of 34-gravity oil through tubing in two hours. Gas measured 1,120,000 feet.

Same company's No. 2-J-2 State, C NE SE Section 2-22-36, flowed 180 bbls. of oil in two hours through three-quarters inch choke, with 1,500,000 feet of gas. It had pay at 3,776 feet, total depth 3,840 feet.

Shell Petroleum Corp. No. 1-E State, C SE SW Section 31-17-35, entered pay at 4,355 feet, was bottomed at 4,690 feet, and flowed 191 bbls. of oil in six hours through tubing, with 744,000 feet of gas.

Maljamar Oil & Gas Co. No. 11 Baish, C NW NW Section 22-17-32, had daily flow of 75 bbls. of oil through tubing from pay found at 3,090 feet. It was bottomed at 4,104 feet.

Ohio Oil Co. No. 1 Walden, C NE NE Section 21-22-37, an old well, flowed 50 bbls. of oil daily through tubing after deepening to 3,672 feet, and was recompleted.

Stanolind Oil & Gas Co. No. 26 Thorpe, C SE NW Section 10-19-38, an old well, was deepened to 4,201 feet and flowed 36 bbls. of oil an hour through 29/64-inch choke, with gas measuring 1,000,000 feet. It was a recompletion.

In Eddy County Repollo Oil Co. No. 3 Beeson, SE NE SE Section 28-17-30, topped pay zones at 3,190 feet and 3,205 feet, was bottomed at 3,268 feet and flowed 147 bbls. of oil daily through 2-inch tubing set at 3,205 feet, with flow packer set at 2,545 feet, and was completed.

Lea County

American Liberty No. 1 Carson, C SW SE Sec. 28-21-37. M.I. mch.

Anderson & Prichard No. 2 Stuart, SW SW NW Sec. 11-25-37. C.O. at 3,410 ft.; F. 25 B.O. in 6 hrs.

Anderson & Prichard No. 3 Wells, C NE NW Sec. 5-25-37. T.D. 3,567 ft.; top pay 3,450 ft.; rng. tbg.

Cities Service No. 1-K State, C SW NE Sec. 27-17-35. Drlg. 3,755 ft.

Continental Oil Co. No. 1 Hawk B-6, NW NW SE Sec. 6-21-37. Loc.

Continental Oil Co. No. 7 Reed B-23, NE NW SE Sec. 23-20-36. W.O.C. 1,300 ft.

Continental Oil Co. No. 1 State 1-7, NE NW NE Sec. 7-17-34. T.D. 4,895 ft.; P.B. 4,682 ft.

Continental Oil Co. No. 2 State H-35, C NE NE Sec. 35-17-34. T.D. 1,200 ft.; cmtg.

Walter Donnelly No. 1 Davis, C SE NW Sec. 33-23-37. T.D. 3,600 ft.; drlg. plug.

Emperor Oil Co. No. 1 Humble-State, C SE SW Sec. 36-20-35. Drlg. 2,640 ft.

Gulf Oil Corp. No. 1 Alley, C NE SE Sec. 10-23-37. T.D. 3,715 ft.; P.B. 3,686 ft.; S.I.

Gulf Oil Corp. No. 3-D Arnott-Ramsey, C NE NE Sec. 33-21-36. Drlg. 1,950 ft.

Gulf Oil Corp. No. 1 Holt, C SW SE Sec. 16-24-37. Drlg.

Gulf Oil Corp. No. 6 McCormack, C NW SE Sec. 32-21-37. Drlg. 3,440 ft.

Gulf Oil Corp. No. 1-B White, C SE SE Sec. 35-20-36. O.W.D.D.; O.T.D. 3,860 ft.; T.D. 3,895 ft.; F. 25 B.F. P.D.; 4% wtr.

Helmerich & Payne and Continental Oil Co. No. 1-G-36 State, C NW SW Sec. 36-17-35. T.D. 4,920 ft.; F. 42 B.O. in 12 hrs.; acdz. and swb. to test.

Humble O. & R. Co. No. 3 Greenwood, C SW SW Sec. 9-22-37. Drlg.

Humble O. & R. Co. No. 1-J State, C SW SW Sec. 19-17-35. W.O.C. 4,725 ft.

Italo Pet. Corp. No. 1-B-22 Carlson, SW SE SE Sec. 22-25-37. Drlg.

Italo Pet. Corp. No. 2-B-22 Carlson, NE SW SE Sec. 22-25-37. C.&P.

Magnolia Pet. Co. No. 2 Hardy, NW NW NW Sec. 28-21-37. Drlg. 3,265 ft.

Magnolia Pet. Co. No. 2-L State, C SW SW Sec. 21-17-35. Drlg. 4,270 ft.

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Magnolia Pet. Co. No. 1-M State, C NE NW Sec. 34-17-35. Drlg. 3,045 ft.
Magnolia Pet. Co. No. 13 State-Bridges, C SW NW Sec. 25-17-34. T.D. 4,763 ft.; C.O. at 4,520 ft.
Magnolia Pet. Co. No. 14 State-Bridges, C SW NE Sec. 25-17-34. T.D. 4,720 ft.; C.O. at 4,522 ft.
Magnolia Pet. Co. No. 16 State-Bridges, C NW NE Sec. 25-17-34. Drlg. 3,575 ft.
Magnolia Pet. Co. No. 17 State-Bridges, C NE NE Sec. 25-17-34. Drlg. 3,155 ft.
Maljamar O. & G. Co. No. 10 Baish, C SW NW Sec. 22-17-32. T.D. 4,110 ft.; S.I.
Maljamar O. & G. Co. No. 12 Baish, C NE NW Sec. 22-17-32. M.I. rotary.
Maljamar O. & G. Co. No. 1-B State, C SW SE Sec. 16-17-32. T.D. 3,660 ft.; cmtg.
Jas. A. Mascho No. 2 Cloyd, C SW SW Sec. 20-22-33. T.D. 5,038 ft.; S.D.O.
John Menke No. 1 Alexander, C NW NW Sec. 5-21-37. T.D. 3,791 ft.; fsg. tools at 3,781 ft.
J. M. Murray, Trustee, No. 1 Fanning, SE SW NW Sec. 33-23-37. Spud.
Ohio Oil Co. No. 1 State-Warn, C NW NW Sec. 6-18-35. T.D. 4,675 ft.; top pay 4,340 ft.; to test.
Ohio Oil Co. No. 2 State-Warn, C NE NW Sec. 6-18-35. C.&P.
Ohio Oil Co. No. 1 State-Bridges, C NE NE Sec. 20-17-34. T.D. 4,755 ft.; acdz. and swb. and F. est. 5 to 10 B.O.P.D.
Ohio Oil Co. No. 1 Wills, C NE NW Sec. 35-26-37. Drlg. 1,227 ft.
Olean Pet. Co. No. 1 Boyd, C NW SW Sec. 23-22-37. T.D. 3,694 ft.; swb. 45 B.O. in 18 hrs.
Olean Pet. Co. No. 1 Brunson, SW SE SE Sec. 4-22-37 Drlg. 800 ft.
Olean Pet. Co. No. 1 Ferrell, C NE SE Sec. 22-22-37 Drlg. 3,663 ft. and F. 17 B.O. in 18 hrs.
Parker Drlg. Co. No. 1-A State, C SW SW Sec. 21-22-37. Drlg. 3,627 ft.; 1,500 ft. O.I.H.
Lem Peters No. 1 Coll, NW SW SW Sec. 26-22-37. T.D. 3,685 ft.; F. into pits, no gauge.
Lem Peters No. 4 L. J. May, SW SE NE Sec. 27-22-37. Drlg. 3,385 ft.
Lem Peters No. 2 T. O. May, NW NE NE Sec. 34-22-37. T.D. 1,145 ft.; S.D. for tools.
Phillips Pet. Co. No. 3 Santa Fe, C SW NW Sec. 5-18-35. Rng. csg. 4,159 ft.
Phillips Pet. Co. No. 10 Santa Fe, C NE NW Sec. 24-17-34. Drlg. 2,773 ft.
Phillips Pet. Co. No. 11 Santa Fe, C NE SW Sec. 26-17-35. Drlg. 3,475 ft.
Schermerhorn Oil Co. No. 1 Woolworth, C NW NE Sec. 28-24-37. O.W.D.D.; O.T.D. 3,477 ft.; T.D. 3,543 ft.; F. 150 B.O in 24 hrs.; est. 3,000,000 ft. of gas.
Shasta Oil Co. No. 3 Woolworth, NE SE NW Sec. 28-24-37. Loc.
Shell Pet. Corp. No. 4-A State, C NE NE Sec. 31-17-35. Drlg. 1,226 ft.
Shell Pet. Corp. No. 1-F State, C SW SW Sec. 29-17-35. Drlg. 4,130 ft.
Shell Pet. Corp. No. 1-H State, C NW SW Sec. 29-17-35. Drlg. 1,950 ft.
Shell Pet. Corp. No. 1-I State, C SW NW Sec. 29-17-35. Drlg. 3,156 ft.
Shell Pet. Corp. No. 1-N State, NE NE SE Sec. 24-21-35. Drlg. 850 ft.
Shell Pet. Corp. No. 1-S State, C NE SE Sec. 21-17-35. Rng. csg. 4,433 ft.
Shell Pet. Corp. No. 1-U State, C NE NW Sec. 3-18-35. Drlg. 3,390 ft.
Skelly Oil Co. No. 1 Baker, C SW SW Sec. 10-22-37. Drlg. 2,690 ft.
Skelly Oil Co. No. 6 Baker, C SW NE Sec. 27-22-37. T.D. 3,660 ft.; C.O. at 3,655 ft.; no gauges.
Skelly Oil Co. No. 1-B King, C NE SW Sec. 33-22-37. Drlg. 3,372 ft.
Stanolind O. & G. Co. No. 4-C Hill, C SE NW Sec. 5-21-37. Loc.
Stanolind O. & G. Co. No. 5-B Langlie, C SE SE Sec. 9-25-37. Drlg. 3,517 ft.
Skelly Oil Co. No. 1 Simms, O.W.D.D., C NW SE Sec. 3-23-37. O.T.D. 3,594 ft.; T.D. 3,640 ft.; F. 42 B.O. P.D.; shot and F. 106 B.O.P.D.; 3,000,000 ft. gas.
Stanolind O. & G. Co. No. 8 Terry, C NW SE Sec. 9-19-38. O.W.D.D.; O.T.D. 4,186 ft.; T.D. 4,200 ft.; P. 18 B.F.P.D., 40% wtr.
Standard Oil Co. of Texas No. 1 State, C SW NW Sec. 32-17-35. T.D. 4,705 ft.; P.B. 4,649 ft.; M.I. pump.
Standard of Texas No. 1 State Lease No. 4, C NE SW Sec. 27-17-35. Drlg. 4,032 ft.
Standard Oil Co. of Texas No. 1 State, Lease 5, C NW NW Sec. 27-17-35. W.O.C. 277 ft.
Texas Co. No. 4 Black, C SE NW Sec. 21-24-37. T.D. 175 ft.
Texas Co. No. 5 Fristoe, NW SE SE Sec. 3-25-37. Drlg. 3,342 ft.
Texas Co. No. 2 Fanning, C NW NE Sec. 4-26-37. Drlg. 3,375 ft.
Texas Co. No. 1 Lodewick, C SW SE Sec. 34-18-33. Drlg. 150 ft.
Texas Co. No. 2-D State, C SW NW Sec. 27-17-34. T.D. 4,860 ft.; pump 11 B.O.P.D.
Texas Co. No. 1-J State, C SE NE Sec. 25-17-34. R.U.R.
Texas Co. No. 1-N State, C SW SW Sec. 30-17-35. T.D. 4,850 ft.; drlg. cmt. at 4,455 ft.
Texas Co. No. 2-N State, C NW SW Sec. 30-17-35. Drlg. 800 ft.
Texas Co. No. 3-Q State, C NW SE Sec. 25-17-34. T.D. 4,725 ft.; acdz. and F. 25 B.O. every other day; to P.O. gas lift.
Texas Co. No. 7-O State, C SE SE Sec. 36-17-34. T.D. 4,710 ft.; tstg.
Texas Co. No. 8-O State, C SW SW Sec. 36-17-34. Drlg. 4,230 ft.
Texas Pacific C. & O. Co. No. 6-A State, SW SE NW Sec. 21-23-26. W.O.C. 3,550 ft.
Twin Oil Co. No. 1 Hare, C SE SW Sec. 33-21-37. S.D. repairs 2,705 ft.
Twin Oil Co. No. 2 Hare, C NW SW Sec. 33-21-37. W.O.C. 1,205 ft.
Twin Oil Co. No. 1 Joyce-Pruitt, C SE SE Sec. 31-21-37. T.D. 3,771 ft.; acdz. to test.
Two States Oil Co. No. 3-B Cole, C SE NE Sec. 16-22-37. Drk.
Weiner et al No. 2 Smith, NW SE NE Sec. 4-25-37. T.D. 3,143 ft.; W.O.C.
Sam Weiner No. 1 Woolworth, SE NE SW Sec. 33-24-37. Drlg. 1,015 ft.
Westmount Oil Co. No. 1 State, C SE NW Sec. 30-17-35. Drlg. 3,209 ft.
Francis C. Wilson No. 1 State, C SW NE Sec. 7-21-35. Drlg. plug at 3.662 ft.

Eddy County

Adkinson Oil Co. No. 1 Brainard, SE SW SE Sec. 5-18-27. Loc.
F. E. Baker No. 1 Eddy, NE Sec. 12-22-27. T.D. 2,519 ft.; S.D.O.
Carper Drlg. Co. No. 1 Day, NE NE NE Sec. 3-19-21. T.D. 2,748 ft.; swb. 70-80 B.F.P.D., 20% wtr.; S.I.
Carper Drlg. Co. No. 3 Robinson, SW SW SE Sec. 25-16-31. R.U. and S.D.
B. Cockburn No. 1 State, C SW NE Sec. 16-18-31. T.D. 3,128 ft.; W.O.C.
Danciger O. & R. Co. No. 1-B Turner, CEL NE SE Sec. 17-17-31. Drlg. 2,295 ft.; S.S.O.&G.
D. & B. Oil Co. No. 3-A Berry, NW SW NW Sec. 21-17-30. Drlg. 2,936 ft.
Dominion O. & G. Co. No. 2 Johnson, C SE NE Sec. 35-16-31. Drlg. 4,000 ft.; 1,350 ft. O.I.H.
Dominion O. & G. Co. No. 3 Johnson, C NE SW Sec. 35-16-31. Drlg. 3,170 ft.
English & Harmon No. 1 Dougherty, NE NE SW Sec. 3-17-27. T.D. 2,319 ft.; gauged 1,000,000 ft. gas; S.I.
Etz Bros. No. 5 State, SE NE SE Sec. 16-17-30. S.D. repairs 1,500 ft.
Franklin Pet. Corp. No. 1 McIntyre, NW NE SE Sec. 20-17-30. T.D. 2,893 ft.; swb. 25 B.O.P.D. while drlg.
Fullerton Oil Co. No. 1-A Johnson, C SE NW Sec. 35-16-31. T.D. 3,871 ft.; C.O. at 3,851 ft.
Fullerton Oil Co. No. 2-A Johnson, C NW SE Sec. 35-16-31. Drlg. 3,548 ft.
Fullerton Oil Co. No. 1-A Little, C NE NE Sec. 28-18-31. Drlg. 3,580 ft.; 100 ft. O.I.H.
C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. Drlg. 2,621 ft.
F. G. Keys No. 2 State, C SE NE Sec. 9-17-28. T.D. 1,725 ft.; F. 50 B.O.P.D. while C.O.
Harry Leonard No. 1 Texas, NW NW NE Sec. 36-16-31. T.D. 4,009 ft.; rng. tbg. to test.
New Mexico Eastern Gas Co. No. 2 Stephens, SE SE NE Sec. 20-17-38. Loc.
Paton Bros. No. 1 Erwin, C SW SW Sec. 9-18-31. Cellar.
Premier Pet. Co. No. 1 Maddren-Beeson, NE SW SE Sec. 28-17-30. Drlg. 2,822 ft.
Premier Pet Corp. No. 2-B Beeson, SW NW SW Sec. 27-17-30. Loc.
Wood Drlg. Co. No. 1 Taylor, C SW SW Sec. 12-18-31. C.&P.
Martin & Lysette No. 1 Pardue & Guitar, SE SW NW Sec. 29-24-36. Loc.
Martin Yates, Jr., No. 1 Bowers, SW SE SE Sec. 31-19-27. T.D. 876 ft.; sdy. L.; S.S.O.&G.
Yates-Doolev No. 1 Creek, C SW NE Sec. 35-18-30. Drlg. 3,070 ft.

Chaves County

E. J. Fisher No. 1 Foster, C NW NW Sec. 7-15-26. Drlg. 1,143 ft.
Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. Drlg. 210 ft.
Interstate Minerals, Inc., No. 1 Dunigan, NW cor. Sec. 15-15-30. T.D. 2,485 ft.; prep. to run csg.
J. & L. Drlg. Co. No. 2 Hurd, SW Sec. 11-11-26. T.D. 1,660 ft.; rng. csg.

De Baca County

N. F. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 190 ft.; S.D.O.
James D. Ward No. 1 Summers, SE NE SW Sec. 15-4s-24e. T.D. 404 ft.; S.D. repairs.

Roosevelt County

Shell Pet. Corp. No. 1 Harwood, C S½ SE SE Sec. 27-7s-35e. R.U.R.

NORTHWEST NEW MEXICO

Rio Arriba County

Continental Oil Co.-L. M. Hughes No. 1 Esquibel, W

INTERNATIONAL symbol of service

Ships that sail the seven seas come to General American Terminals. Here are world famed facilities that you can use—for extra safety in storage, extra speed in handling, extra savings. General American provides terminals for anything that flows through a pipe line. It's almost like having your own private terminal. You will save time and cut costs by using General American facilities.

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Goodhope, La. (Port of New Orleans)
Westwego, La. (Port of New Orleans)
Carteret, N. J. (Port of New York)
Galena Park, Tex. (Port of Houston)
Corpus Christi, Texas

surveyed; approx. Sec. 28-28n-4e. Drlg. gr. sd. 1,877 ft.
Oil City Pet. Co. No. 1 Azotea, SW SW NE Sec. 11-31n-2e. Drlg. below 300 ft.

San Juan County

The Continental Oil Co. No. 81 Rattlesnake, SW NW NW Section 1-29n-19w, Rattlesnake pool, was completed in the Dakota at 870 feet with an initial production of 39 bbls. per day on the pump with no water.

Jack Amenda No. 1, NE NE Sec. 14-29n-13w. Drlg. below 250 ft.
Al Greer No. 2 fee, SW SE SW Sec. 10-30-11w. S.D. 660 ft. for 10-in.
Anna Oil Corp. No. 6 Govt., SW NE NE Sec. 33-30n-11w. S.D. 1,893 ft.

COLORADO

Elbert County

Plymouth Oil Co. No. 1 Brosky-Union Pacific, C SW SW Sec. 19-10s-60w. T.D. 5,855 ft.; fsg.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE Sec. 2-19s-70w. S.D. 2,190 ft.; C.D.
R. E. Hawks No. 1 Orndoff, NE SW NE Sec. 3-19s-70w. Drlg. 1,988 ft.; 400 ft. O.I.H.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. T.D. 1,673 ft.; fsg. blr.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW Sec. 11-2n-81w. S.D. 3,920 ft.; will D.D. to Morrison.

Huerfano County

J. G. Tomkins & Son No. 1 Pressey, NE NE NE Sec. 10-29s-69w. T.D. 417 ft.; pmpg. 15 B.P.D.; mostly wtr.
S. W. Pressey No. 2 Alamo, C SW SE Sec. 3-27s-68w. Drlg. 1,775 ft.

Las Animas County

Hulme & Johnston No. 1 Hulme-Azar, SE SE NW Sec. 27-34n-58w. R.U.C.T.

Mesa County

Continental Oil Co. et al No. 1 Miller, SW SW NW Sec. 36-8s-91w. Cg. rd. limey sh. 8,167 ft.

Moffat County

H. N. Isenberg, of Los Angeles, Calif., formerly with the Felmont Oil Co., which operated in Wyoming, and other companies in the Salt Creek field in earlier days; H. Leslie Parker, discoverer of the Big Muddy field, and William A. Myers, who drilled the discovery well in the Hiawatha gas field, will drill a test on the Willow Creek structure, on the west end of the Skull Creek anticline. Structure was mapped by E. S. Shaw. Contract has been let to J. H. Farrington, of Rock Springs, who is moving in cable tools. The well starts in the top of the Ankareh shale, the equivalent of the Triassic red beds in central Wyoming. The first objective is the Shinarump at around 300 feet. The Park City (Embar) is expected at 900 feet and the Pennsylvanian, the equivalent of the Weber at Rangely, the Tensleep in northern Wyoming and the Minnelusa in Lance Creek is expected at 1,000 feet. Below that depth within the next 600 feet are eight horizons which showed oil and gas in the California Co.'s deep test on the Rangely dome to the south at between 5,600 and 6,200 feet. The block contains 13,487 acres.

Isenberg, Parker & Myers No. 1 Myers-State, NW SE NE Sec. 36-4n-103w. Bldg. rd. and M.I.M.
Stanolind O. & G. Co. No. 5-SD Parkinson, CNL NW SE Sec. 22-4n-92w. Cmtd. 4¾-in. lnr. at 3,464 ft.; perf. and tstg.
Mackinnie Oil & Drlg. Co. No. 1 Coles, SW SW SE Sec. 1-3n-92w. Drlg. 2,925 ft. in wet hole and lowering 8¼-in. through Dakota.
C. R. Privett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.W. 590 (C.D.) ft.; U.R. 10-in. to S.O.W. above gas at 525 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. wh. L. 6,255 ft.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW Sec. 31-21s-44w. Drlg. in Madison 5,414 ft.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek, SW SE Sec. 29-19s-64w. Drlg. 1,615 ft.; top Greenhorn 1,595 ft.; small S.O. in top Carlile 1,400 ft.
C. E. Puckett No. 1 Barber, NW Sec. 35-21s-66w. Drlg. 720 ft. (C.D.); unable S.O.W. with 6⅝-in. at 645 ft.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. Drlg. blk. sh. 3,073 ft.

Routt County

L. C. Craig and E. L. Moore No. 1-X Erwin, C SW NE Sec. 33-7n-85w. Rng. 12½-in. to set at 160 ft.
Mid-Colorado Pet. Co. No. 1 Omholt, NE NE SE Sec. 29-4n-87w. Drlg. wh. sd. at 3,140 ft.; top 3,120 ft.
Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NW Sec. 1-6n-86w. Drlg. 1,313 ft. after parting 10-in. at 1,285 ft. and stdr. 120 ft.

WYOMING

Big Horn County

The Yale Petroleum Co. is building rig for its No. 1 Jones, on the Garland dome, a north offset to No. 1 Stock-Jones, a Madison lime well completed in October, 1937, at 4,101 feet for 2,880 bbls. per day.

Yale Pet. Co. No. 1 Jones, Sec. 52-56n-97w. Bldg. rig; (first report).
Valentine M. Kirk No. 1 Frisby, NE SW NE Sec. 11-49n-94w. M.I.M.
A. L. Rankin No. 1 Karjajia-Rankin, C SW NW Sec. 10-54n-94w. Drlg. 572 ft.
John H. Thomas No. 1 Govt., SW SW SE Sec. 3-54n-94w. Rng. 8¼-in. to 607 ft. for W.S.O.

Campbell County

Frye & Kreiner No. 2, CSL NW NW Sec. 6-50n-72w. T.D. 723 ft.; rng. 5⅛-in. for W.S.O.

Carbon County

The Sinclair-Wyoming Oil Co. No. 3 Mahoney, C SE NW Section 34-26n-88w, Mahoney dome, which swabbed 56 bbls. in 24 hours from the Tensleep at 4,353 feet, was deepened to 4,408 feet where it swabbed 15 bbls. in eight hours. It may drill a little deeper before completing.

The Ohio Oil Co. No. 2-A Baker, Oil Springs dome, proved to be running low on structure and at 2,717 feet it will plug back and drill a directional hole, drifting to the north in an attempt to contact the pay zone at a higher level. Whipstock will be set at 885 feet. This is one of the first attempts at directional drilling in this territory, although the practice is more extensive in other districts. This well had the Sundance at 2,512-2,710 feet with water in the base. It made approximately 5,500,000 feet of gas with the water.

C. D. Cunningham et al No. 1 Union Pacific-fee, NW SE NE Sec. 21-22n-78w. Drk.; W.O.R. tools.
C. D. Cunningham et al No. 1 Union Pacific-Wolfe, SE NW SW Sec. 7-23n-78w. Drlg. blk. sh. 620 ft.
Ohio Oil Co.-California Co. No. 5-A Kyle, C NW NE Sec. 26-21n-97w. T.D. 450 ft.; cmtd. 13⅜-in. 288 ft.; W.O.C.
Ohio Oil Co. No. 2-A Baker, NW SW SW Sec. 2-23n-79w. T.D. 2,717 ft.; will whipstk. out at 885 ft. for directional hole.
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE Sec. 26-21n-79w. Drlg. 7,836 ft.
Producers Oil Co. No. 1 Lake Valley, 200 ft. C of NL Sec. 14-20n-88w. Drlg. 1,916 ft.

Converse County

H. O. Emery et al No. 1 Roberts, NE NW SE Sec. 2-31n-70w. S.D.O. 390 ft.; gas in White River sd. at 255 ft. with wtr. above and below.

Hot Springs County

Italo Pet. Co. No. 1 Skelton-Govt., SE SW NE Sec. 13-44n-98w. Landed 12½-in. on bttm. at 1,266 ft.
J. W. Bailes No. 1 Govt., SE SW Sec. 28-43n-93w. T.D. 1,082 ft.; P.B. to 1,015 ft.; tstg.

Natrona County

The Stanolind Oil & Gas Co. is going back into its

(Continued on Page 107)

Want a TOUGHER rotary brake LINING?

Get the NEW J-M 420!

THREE important steps in making J-M 420 Rotary Lining are shown in the photo above.

The "cabled" asbestos yarn at the extreme right has been specially processed for extra strength. It is tightly woven into a dense, compact fabric; compressed and impregnated with a newly developed compound that has high resistance to heat. The result is a lining that is giving unusual service on rotary brakes. J-M 420 Rotary Lining has these important advantages:

UNUSUALLY EVEN FEED-OFF, giving better control of drilling . . .

HIGHER BRAKING EFFICIENCY, even at extreme temperatures caused by heavy loads . . .

LONGER LIFE under any conditions . . .

LESS SCORING OF DRUMS, giving longer drum life.

In the short time since the new J-M 420 was introduced, this rugged, lasting lining has sold both owner and driller on its superior braking performance. For full details on J-M 420 Rotary Lining and on all J-M Friction Materials, write Johns-Manville, 22 East 40th Street, New York City.

Johns-Manville 420 ROTARY LINING

THESE FACTS ARE CERTAIN:

1. You want to find oil.
2. You want to improve the prevailing discovery rate.
3. In seeking to do so, you want to use any advanced methods which are (a) scientifically sound, (b) economically feasible, and (c) proven by actual experience.

THEREFORE, why not immediately begin making a thorough investigation of the Smith System of chemical prospecting (soil analysis) in order to determine for yourself whether or not they meet all these prerequisites. You will find that they do.

Soil analysis surveys, confirmed by drilling, have helped others increase their success average; they can do the same for you. The past record of this company justifies you in considering the application of our service to your particular problems before drilling any future wildcat wells. Write or call for details, and arrange for consultation.

The use of geochemistry is a most logical means of attacking the oil exploration problem. In the past prospecting has been with physical instruments, hoping to interpret physical features in the earth's crust which might offer some possibility for oil accumulation. Chemical forces have been equally important as physical in the formation of traps suitable for the accumulation of oil, and in determining the character of the overburden. Hence, the location of such deposits can be mapped with equal or greater accuracy by chemical methods, Significant chemical reactions are received from petroleum itself, rather than from possible indications of structure alone.

GEOLOGICAL SCIENTIFIC SERVICE CO.

FORT WORTH, TEXAS

Denver Pool Given Two-Mile Extension by Magnolia Test

By D. H. STORMONT

FORT WORTH, Tex., Oct. 3.—The completion of a 2-mile extension to the Denver field and a new wildcat outpost for the Bennett pool of Yoakum County, along with two possible pool extensions for the south basin area marked the developments in West Texas over the past week.

Magnolia Petroleum Co. No. 1 Lynn, extending the Denver pool of Yoakum County about 2 miles to the northwest, was completed for 312 bbls. of oil in 24 hours. The saturated section at 5,123-65 feet received a two-stage acid treatment. Total depth is 5,165 feet. Also in Yoakum County, the Bennett pool received a new outpost when Mabee Consolidated Corp. staked location for a test on land acquired from the Colin Oil Corp. The test will be in Section 741, of the Gibson Survey, and is a mile southeast of the Bennett pool.

A new location in the Seminole area of Central Gaines County was staked for Magnolia Petroleum Co. No. 1 Havenmeyer, Section 219, Block G, W. T. Survey. The test is on the north end of production and is an east offset to the Amerada Petroleum Corp. No. 1 Riley, a 298-bbl. producer.

In the Slaughter pool of Hockley County, Gulf Oil Corp. No. 2 Mallett, Labor 25, League 34, Concho C.S.L. Survey, about a mile northeast extension to the area which has been in the testing stages for several weeks, reported a production of 230 bbls. of oil in 24 hours on its latest gauge. The well was being cleaned out at 5,045 feet after having received its third acid treatment.

Central and South Basin

In Ector County, the Goldsmith pool received a quarter-mile south extension when Gulf Oil Corp. No. 123 Goldsmith, Section 21, Block 44, flowed 151 bbls. of oil on a four-hour test through tubing, with a gas volume of 668,000 feet. Total depth is 4,200 feet, in lime.

Still in the testing stages, Fuhrman Oil Co. No. 1 Ashton, mile-west outpost to the Fuhrman pool in Andrews County, gauged 50 bbls. of fluid, 60 per cent water, in 24 hours. Bottomed at 4,492 feet, the well has been acidized with 2,000 gallons.

Indicating a 1¼-mile southeast extension to the Tubbs area of western Crane County, Aloco Oil Co. No. 1-A Tubbs, Section 19, Block 32, P.S.L. Survey, found oil sand at 4,250-4,419 feet, and set casing.

Extending the north edge of the Keystone pool in Winkler County about one-half a mile to the northeast, J. R. Sharp No. 1 Crum, Section 7, Block B-2, P.S.L. Survey, was estimated good for 100 bbls. of oil per day from a saturated section at 3,290-3,334 feet. Operators are testing through tubing.

WEST CENTRAL TEXAS

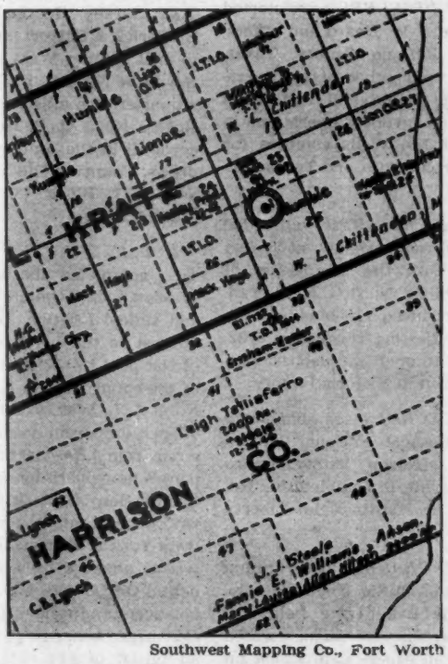
Extensions to the Bryson pool in Jack County and the Chittenden pool in Jones County, accompanied by two new wildcat tests in Haskell County, centered most of the interest in West Central Texas over the past week.

Edge test for the Chittenden pool in Jones County was the Humble Oil & Refining Co. No. 1 Chittenden, Subdivision 25, L. Kratz Survey 335. The test cored 12 feet of sand at 3,010 feet to 3,022 feet. Twelve and one-half feet of saturation was passed up from 2,777-89 feet and the test was carried to the Swastika pay of the discovery well, Mack Hays No. 1 Chittenden, which it offsets. A new test was staked by Hays as his No. 2 Chittenden, 660 feet east of the discovery well, and in the Kratz Survey of Subdivision 18.

A mile north and east extension to the Bryson pool of Jack County was indicated. Bennett Oil Co. No. 1 Matlock, B.S.&F. Survey, 3½ miles northeast of Bryson, reported drilling ahead in saturation with 2,200 feet of oil in the hole. A new wildcat test for Jack County was seen over the past week as Southern Oil & Gas Co. started moving in materials for a 4,500-foot rotary test in the southeastern corner of the J. Ariola Survey, Abstract 2. The wildcat is about a half mile from the oil well drilled by Roxana Oil & Gas Co. in 1922 which is still producing 16 bbls. of oil daily after 16 years from a total depth of 4,488 feet.

Haskell County received two new wildcat tests. Roser & Pendleton started moving in materials for a 4,600-foot test 3 miles northwest of Rule in the northwestern part of the county. The test will be No. 1 Daughtry, Section 19, Wise C.S.L. Survey, and is about 2½ miles northeast of the Indian States Oil Co. No. 1 Jones, recent failure in that area. In the Rochester area of the county, W. H. Harrison has staked his No. 1 J. R. Whitesides, in Subdivision 43, Red River C.S.L. Survey.

The James pool of Young County was given a north extension by Young Seibold Drilling Co. No. 1



Southwest Mapping Co., Fort Worth

Jones County's Chittenden pool, showing new completion over the past week. The third test for the pool has been staked just east of the discovery well

R. A. Crawford, Section 623, T.E.L. Survey, which flowed 125 bbls. of oil the first hour, one of the largest producers yet completed in the pool. Saturation was encountered from 3,950-67 feet. Operators will run tubing and complete the well.

WEST TEXAS COMPLETIONS

(24-hour production)

Crane County

Gulf Oil Corp. No. 14 Henderson, 3,514-40 feet, 1,410 bbls.; No. 2-B State-Lasiter, 3,097-3,142 feet, 430 bbls. Snowden & McSweeney No. 5 University, 3,517-49 feet, 145 bbls.

Ector County

Broderick & Calvert No. 10 H. C. Foster, 4,050-4,280 feet, 1,060 bbls. Carter & Naylor No. 6 J. E. Parker, 4,120-4,398 feet, 561 bbls. Gulf Oil Corp. No. 121 Goldsmith, 4,248-68 feet, 668 bbls. Landreth Production Co. No. 4-M Scarbauer, 4,144-64 feet, 1,935 bbls.; No. 3-O Scarbauer, 4,160-93 feet, 422 bbls.; No. 4-C T.&P. Lands, 4,150-4,275 feet, 1,346 bbls. Shell Petroleum Corp. No. 4-A J. E. Witcher, 3,980-4,185 feet, 1,916 bbls. Stanolind Oil & Gas Co. No. 6 Johnson, 4,155-4,235 feet, 478 bbls. Joe Worsham No. 4 Connell, 3,428-3,652 feet, 150 bbls.

Gaines County

Ohio Oil Co. No. 1 Averitt, 5,027-5,116 feet, 240 bbls.

Hockley County

Stanolind Oil & Gas Co. No. 2 Slaughter, 4,976-5,038 feet, 477 bbls.

Howard County

Magnolia Petroleum Co. No. 7 Human-Chalk, 2,800-2,955 feet, 1,491 bbls.; No. 9 A. E. O'Daniel, 2,680-2,802 feet, 414 bbls. Moore Brothers No. 4-A O'Daniel, 2,640-2,807 feet, 847 bbls.

Nolan County

Frank Oyster No. 1 E. W. Withers, abandoned at 4,505 feet. Ajax Drilling Co. No. 1 Withers, dry and abandoned at 4,505 feet.

Pecos County

Pecos State Oil No. 1 State, 1,955-2,020 feet, 103 bbls. W. H. Street No. 2 Texas-Shearer, 1,400-49 feet, 158 bbls.; No. 3 Texas-Shearer, 1,417-57 feet, 491 bbls. Wesley Oil & Gas No. 3-A Francis & Lewis, 1,796-1,836 feet, 660 bbls.

Stonewall County

Stonewall Oil Co. No. 1 Ima Harrison, location abandoned. Bert Fields No. 1 Pierson, dry and abandoned at 4,202 feet.

Terrell County

Schermerhorn Oil Co. No. 1 H. P. Allison, dry and abandoned at 2,500 feet.

Upton County

Brown-Hancock-Hines No. 8-D Baker, 2,245-92 feet, 1,101 bbls. Edwards-Moore-Donnelly No. 1 Shell-Burleson, 2,205-74 feet, 592 bbls. Gulf Oil Corp. No. 34 Crier-McElroy, 2,845-2,919 feet, 442 bbls.; No. 179 Crier-McElroy, 2,752-2,974 feet, 464 bbls. Humble Oil & Refining Co. No. 25-A Ricker, 2,175-2,210 feet, 137 bbls.; No. 2-B Ricker, 2,625-50 feet, 264 bbls. Sylvia Oil Co. No. 7 Baker, 2,296-2,365 feet, 1,065 bbls.

Ward County

Gulf Oil Corp. No. 104 Estes, 2,504-2,660 feet, 2,260 bbls.; No. 112 Hutchins, 2,615-2,750 feet, 325 bbls. Wasones Oil No. 3-B Cormagie, 2,272-2,351 feet, 20 bbls. Western Well Service No. 2-B D. L. Johnson, 1,955-2,064 feet, 326 bbls.

Winkler County

Humble Oil & Refining Co. No. 14-D Walton, 2,800-2,995 feet, 480 bbls. Magnolia Petroleum Co. No. 179 Walton, 3,200-59 feet, 877 bbls.; No. 180 Walton, 2,830-2,911 feet, 1,516 bbls.; No. 183 Walton, 2,830-2,913 feet, 1,779 bbls.; No. 184 Walton, 2,840-2,920 feet, 1,142 bbls. Phillips Petroleum Co. No. 5 F. P. McCabe, 2,880-2,950 feet, 111 bbls.

Yoakum County

Fred M. Allison Production No. 1 Eden, 4,907-5,044

(Continued on Page 84)

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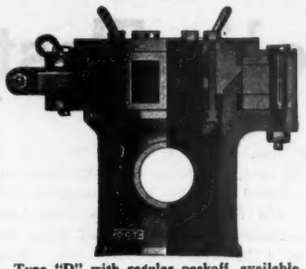

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Among the Drilling

CROSBY DRILLING CO. extended the South Alice field, Jim Wells County, Texas, approximately 1,400 feet with the completion of Pan American Production Co. No. 2 Cook.

ALLEN & MORRIS received contract from Darby Petroleum Co. for No. 1 Rooke, to be drilled in the LaRosa field, Refugio County, Texas. Offsetting the discovery well of the LaRosa field, I. J. Allen No. 3 Rooke flowed oil an a 20-minute drill stem test at 5,890-5,902 feet and casing is being cemented. For the same operator No. 1 Spaulding is drilling below 5,001 feet. Contract was received from Seaboard Oil Co. for No. 39 Luby in the Luby field, Nueces County.

TRINITY DRILLERS have started operation on J. W. Heard and others' wildcat in Refugio County, Texas, and report four other active operations at the Eagle Hill and Saxet fields, and two wildcat operations in Nueces and Jim Wells counties for Phillips Petroleum Co. and Transwestern Oil Co.

GLENN H. McCARTHY extended the Keeran field, Texas, 4,500 feet northwest with the completion of Barnsdall Oil Co. No. 1 G. K. Keeran. The well produced 110 bbls. of 39.2-gravity oil, flowing through a 5/32-inch choke, to open the deepest producing horizon in Victoria County.

GEORGE ECHOLS has abandoned his No. 1 American National Bank, a wildcat in Jefferson County, Texas, and is preparing to complete his No. 1 West in the Hardin field, Liberty County.

CRON & GRACEY are running screen in Fohs Oil Co. No. 5 State, located in the Lake Long field, Lafourche Parish, Louisiana, which showed for an excellent producer on a drill stem test in the 10,000-foot zone. Location was made by the company for No. 6 State and the rotary is expected to be moved in following the completion of No. 5 State.

C. H. COPE has been awarded the contract to drill a 6,500-foot test for Redditt & Gray. The test, No. 1 Pickering Lumber Co., is drilling below surface casing in the Joaquin gas distillate field of Shelby County, East Texas Border.

PORTER DRILLING CO., INC., of El Dorado, Ark., has been awarded a charter, and will operate in the oil territory of South Arkansas. Officers are G. Harry Porter, Mrs. Velma Porter of El Dorado and R. D. Sturkey of Houston, Tex.

CARTER DRILLING CO. is preparing to make a production test on F. A. Gillespie and others No. 1 Kirby Petroleum Co., a semiwildcat located northwest and southwest of the North and South Cotton Lake field in Chambers County, Texas. Casing was cemented to test oil and gas showings at 6,385-6,423 feet.

GEORGE LIVERMORE DRILLING CO. of Odessa, Tex., has received contracts for three more tests in the Foster pool of Ector County, West Texas. They will be drilled for Broderick & Calvert, Fort Worth independents and one of the larger operators in the field. The new tests will be Nos. 8, 9, and 10 Witcher, all in Section 19, Block 42, Township 2s, T.&P. Survey. George Livermore and Broderick & Calvert announced plans to drill another West Texas test also. It will be No. 1 O. B. Holt, Jr., and is a quarter of a mile west of Rogers & Rogers No. 1 O. B. Holt, Jr., discovery well in the southern part of Andrews County. The new test is in Section 1, Block 43, Township 2n, T.&P. Survey.

M. B. K. DRILLING CO. of Odessa, Tex., completed another well in the Wasson pool of Gaines County, Texas, and staked location for a mile west outpost to the north extension area of the pool in the northwestern part of the county. M. B. K. completed its No. 2 A. L. Wasson for 1,505 bbls. of oil per day from saturation encountered from 4,890-4,990 feet. The company's new operation is No. 1-B Wasson, Section 51, Block AX, P.S.L. Survey, on a farmout acreage obtained from York & Harper of Midland. The test is about a mile west of Continental Oil Co. No. 1-50 Wasson, most northern producer in the north extension area, which was completed for an initial of 914 bbls. of oil daily, naturally.

E. P. CAMPBELL of Abilene, Tex., has taken a contract for the third well to be drilled by John L. Reeves of Fort Worth in a newly opened area in Eastland County, West Central Texas. The test will be No. 2-B Downtain, 2½ miles southeast of Eastland, and will seek production from the same level as the three producers already completed. The opening well, No. 1-A Downtain, was completed the past year for approximately 60 bbls. of oil daily. Sinclair Prairie Oil Co. is preparing to connect the lease with a pipe line.

OWENS & GREEN of Abilene, Tex., have spudded a Nolan County, Texas, wildcat for Charles E. Peddicord and

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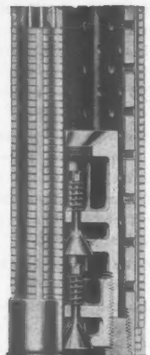

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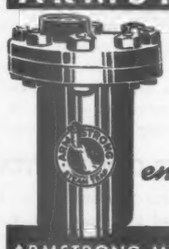

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Contractors

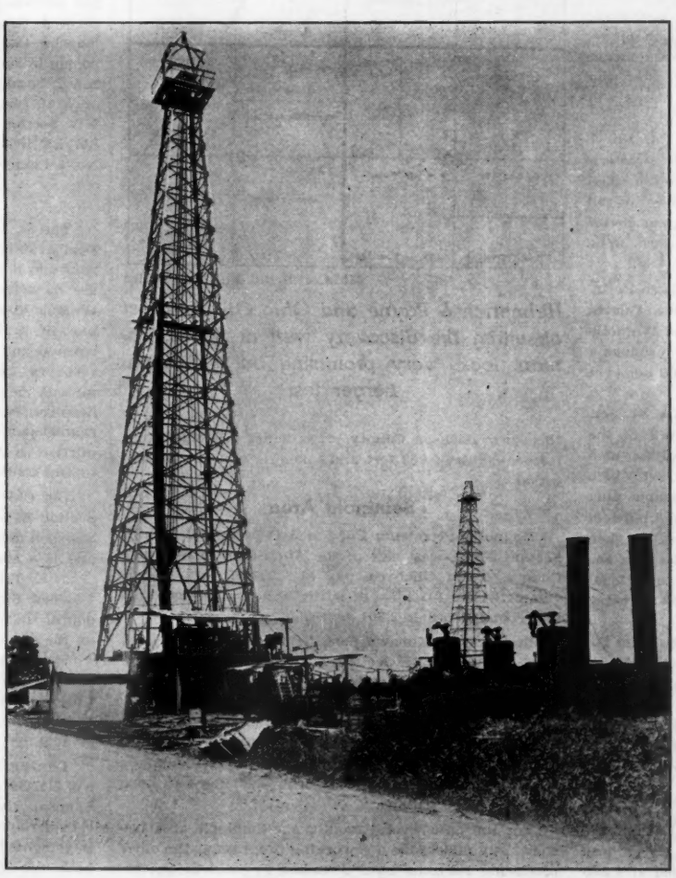
others in a 5,000-acre block geologized by J. F. Sleuter, Fort Worth. The test is in the C. H. Tipton lands of Section 32-19, T.&P. Survey, and will test the Noodle Creek lime.

HARRY BASS, Dallas, Tex., drilling contractor, is building rig and moving in a portable rotary for Tide Water Associated Oil Co. No. 1 Hockman, Section 19-28-1e, on the southwest flank of the old Dilworth pool in northern Kay County, Oklahoma. It will be a Wilcox sand test to 3,350 feet.

C. W. ALCORN, of Falcon-Seaboard Drilling Co., Tulsa, has been sent to Houston, Tex., to open a branch office. All of the Falcon-Seaboard rigs are now in Texas and Louisiana with one at Corpus Christi, one in Victoria County, Texas, one in Lockport and one in Leeville, Lafourche Parish, Louisiana. Falcon-Seaboard has been awarded a contract in the Fairbanks pool, north of Houston, by Sinclair Oil Co. This is to be on the Goodykoontz 160-acre lease in Lot 4-A of Wily S. Powell one-third league. This will be an offset to the Stanolind Cook well recently completed at 7,000 feet. The two rigs in Louisiana are drilling for William Helis, independent operator of New Orleans. One is drilling the City of New Orleans No. 1-A below 8,700 feet. In the Valentine field casing has been set on the third well for William Helis at 7,375 feet.

IRON DRILLING CO. has just completed a well for Stanolind Oil & Gas Co. at Ellenwood, Kans., and is drilling two wells for Transwestern at Bushton, Kans., and two wells for Carter Oil Co. in Illinois. It is also drilling an interesting test in Kentucky on Diamond Island, in the middle of the Ohio River, No. 1 Diamond Island, which is drilling below 2,400 feet with approximately 200 feet to go.

FALCON SEABOARD DRILLING CO. has been awarded contracts to drill ten 4,500-foot wells on the McFadden ranch, Victoria County, Texas, for Barnsdall Oil Co.



Smith & McDannald rotary at Charenton field, St. Mary Parish, Louisiana, well of Pan American Production Co.

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By
DAL DALRYMPLE

Farthest West Wilcox Sand Pool Is Opened by Champlin

The Champlin Refining Co. No. 1 Boehm, SW NE Section 4-24-8w, Garfield County wildcat, definitely proved itself to be a pool opener on Saturday, October 1. Actual testing of the well started at 6:20 a.m. and the well was permitted to flow into pits for 15 minutes during which time the flow was comprised mainly of gas. At 6:35 a.m. it began producing oil and the flow was then directed to tanks, and in two hours and 25 minutes it gauged a total of 129 bbls. of 44-gravity oil. Gauges of the flow were taken each half hour and were as follows: From 6:35 to 7 o'clock it flowed 55 bbls.; from 7 to 7:30 it flowed 21 bbls.; then 22 bbls. the next 30 minutes and 13 bbls. and 18 bbls. in the two following 30-minute periods. The gas flow was estimated at 2,240,000 feet per day. It was making around 4 per cent mud and drilling water and encouraging was the fact that there was no salt water showing. Continued production at the above rate should result in a daily capacity of 500 to 600 bbls. The oil was coming from the second Wilcox sand topped at 6,694 and bottomed at 6,702 feet.

The discovery is regarded as the most important of the year in so far as opening up a vast new territory for exploration in Oklahoma is concerned. It is the farthest northwest producer in the state and will undoubtedly stimulate lease and development activity in all the northwestern counties. The immediate area around the well is practically controlled by the Champlin Refining Co.

Concurrently with the discovery of the new pool, Champlin Refining Co. announced its intention of acquiring the market outlets and refinery of the Eason Refining Co. at Enid, which lies directly across the road from the Champlin refinery, and both plants will be operated probably as one establishment.

The Indian Territory Illuminating Oil Co. No. 1 Kitchen, another relatively important northwestern Oklahoma wildcat paralleling the Nemaha granite ridge to the west, has drilled to a depth of 6,954 feet, in the Wilcox sand, at which depth an electric logging device indicated salt water and reports state the test will be abandoned.

Since last week's report relative to the Cosco Refining Co. withdrawing from the Robberson pool in Garvin County, as a purchaser, it is learned that the Magnolia Pipe Line Co. has made connections to all producing properties in the field and are now taking 100 per cent production from all the leases.

Rogers & Rogers No. 1 Robinson, SW SW SE Section 36-8n-7e, semiwildcat one-half mile south of the Rosanna pool in Seminole County, after drilling to a total depth of 3,138 feet in the Booch sand, set 7-inch casing at 3,118 feet. After drilling out the cement plug and penetrating the sand to a new depth of 3,140 feet the well swabbed 152 bbls. in 72 hours. Operators then shot the sand with 10 quarts which resulted in the well swabbing 40 bbls. of oil in 18 hours. An additional shot with 20 quarts was made and the well is being cleaned out.

It has been learned that the Magnolia Petroleum Co. will not make a location at this time in Section 27-5n-11e, southern Hughes County, but will delay it indefinitely.

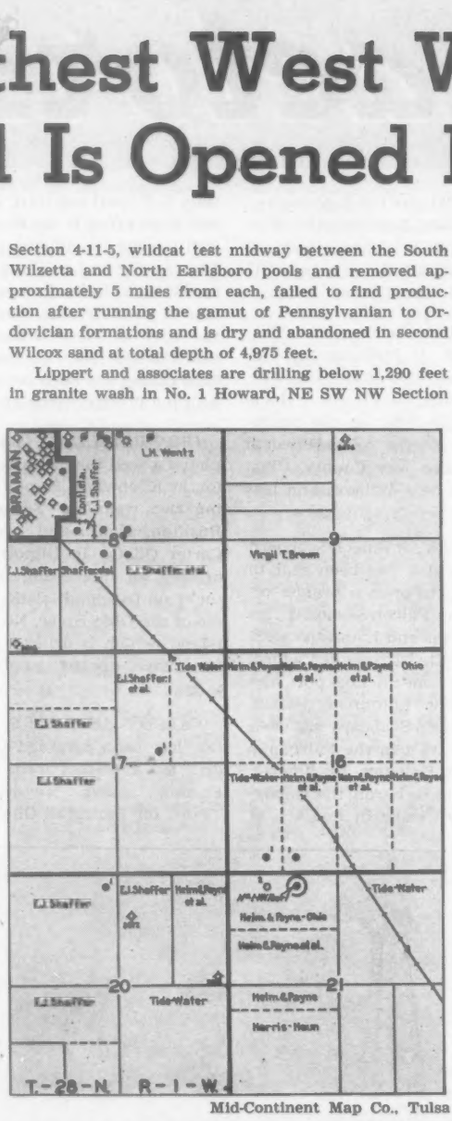
Sinclair Prairie Oil & Gas Co. No. 1 Felts, southern Oklahoma wildcat in the NE cor. Section 35-6s-2w, Love County, will be abandoned with total depth of 8,185 feet.

Wildcats

F. W. Cooper Drilling Co. No. 1 Samuel, NW SE NE Section 19-6-8, found practically no shows in its test to the Wilcox sand and is dry and abandoned at 4,252 feet in that sand. This wildcat is 1 mile south of production in the Sasakwa pool in Seminole County.

Summit Drilling Co. No. 1 Good, C W half NW SW Section 4-11-5, wildcat test midway between the South Wilzetta and North Earlsboro pools and removed approximately 5 miles from each, failed to find production after running the gamut of Pennsylvanian to Ordovician formations and is dry and abandoned in second Wilcox sand at total depth of 4,975 feet.

Lippert and associates are drilling below 1,290 feet in granite wash in No. 1 Howard, NE SW NW Section 10-3n-19w, Jackson County. It is being deepened from former depth of 953 feet and takes the wildcat classification.



Mid-Continent Map Co., Tulsa

Helmerich & Payne and Ohio Oil Co.'s test offsetting the discovery well in South Braman, looks very promising on a Schlumberger test

Seminole Area

Magnolia Petroleum Co. No. 5 Osborn, NE NE SE Section 26-5-7, west side of the Allen field in Seminole County, found Gilcrease pay at 2,271-97 feet, and is completed for 141 bbls. of oil in 20 hours through tubing. Total depth is 2,301 feet.

In the West Konawa pool, Troup and others No. 1 Shirley, SW NW SE Section 27-6-5, is completed in the Earlsboro sand at a total depth of 2,713½ feet, for 80 bbls. of oil in 24 hours, flowing through tubing.

In the Traugh pool, Sinclair Prairie Oil Co. No. 1 Sharber, SE NW SW Section 15-6-6, plugged back from 3,588 feet to 3,517 feet, in Viola lime, where it pumped 110 bbls. of net oil in 24 hours after acidizing that horizon with 3,000 gallons.

For the past several months the Seminole area has constantly undergone a reworking program as the older producing horizons have dwindled in yield to an economic limit. These jobs have either been plugging back or deepening processes with varying degrees of success. During the past week Minnehoma Oil & Gas Co. at No. 2 Neal, NW cor. Section 7-8-6, Mission pool, plugged back from old total depth of 4,609 feet to 4,378 feet and shot Hunton lime at 4,353 feet with 15 quarts of nitroglycerin and 2,000 gallons of acid. It responded with 139 bbls. of oil in 24 hours on the pump. Cities Service Oil Co. No. 2 Fish D, SW SE SE Section 19-7-8, in the Fish pool, was completed in Simpson dolomite at total depth of 4,163 feet with first oil at 4,161 feet. On initial test it made 106 bbls. in 24 hours on the pump. Later it increased its yield to 375 bbls. of oil and 4 bbls. of water in 24 hours after treating with 1,000 gallons of acid. This is an old producer with original total depth of 3,036 feet.

In the Allen field of Seminole County, Magnolia Petroleum Co. No. 7 Reed, NE NE SE Section 18-5-8, deepened from 2,625 feet to 2,842 feet in lower Cromwell sand, failed to produce at the latter depth and it is now being tested in a shallow sand around 2,300 feet.

Carter Oil Co. No. 5 Riddle, C N half NE SE Section 35-11-6, north end of the Keokuk pool, has been recompleted in dolomitic Hunton lime at 4,117 feet for 345 bbls. of oil in six hours flowing through a 1-inch choke. Originally this well was completed in the Misener sand at 4,041 feet which lays immediately above the Hunton lime.

Exclusive of the St. Louis sector, other new work in the Seminole area that started the current week follows: Vierson Oil & Gas Co. No. 6 Factor, NW NW SW Section 25-5-7, rig; Magnolia Petroleum Co. No. 6 Fleet & Osborn, SE NE SE Section 26-5-7, rig; Grisso Royalty Co. No. 2 Sanders, SE NE SW Section 27-6-5, coring in Senora sand at 2,701 feet; Hall, Troup & Moore No. 2 Sanders, NE SE SW Section 27-6-5, is drilling at 2,110 feet; Rogers & Rogers No. 2 Baxter, NE NW NW Section 36-7-5, rig; J. P. Smith No. 2 Edgeman, SW SE SE Section 17-7-6, location, and Wood Oil Co. No. 1 Cameron, SE SW NE Section 2-8-6, a location.

St. Louis Field Activity

The St. Louis field of Pottawatomie County is practically without a rival in number of producing horizons and it is interesting to note that at this time there are 42 active tests in the field after an almost continuous exploitation since its discovery in the early part of 1927. From time to time a new "pay" is uncovered and as a result it has enjoyed a most bountiful recovery, exceeding the production of any one of the famous Seminole area pools. Recent development has been confined to the Calvin sand production in the north-central part of Township 7n-4e, Simpson dolomitic production in the southern part of the same township and to the southeast in Township 7n-5e.

Big Chief Drilling Co. No. 1 Canfield, NW SW SW Section 33-7-5, pumped 194 bbls. of oil in 24 hours from Simpson dolomite pay at 4,071 to 4,101 feet, total depth, and is a completion.

J. E. Trigg No. 1 E. Rhodd, NE SE SE Section 32-7-5, had Simpson dolomite pay at 4,100-18 feet, total depth, that was good for 800 bbls. of oil in 18 hours on the swab. It had been acidized with 5,000 gallons.

Magnolia Petroleum Co. No. 5 Nicklas, NW NE NW Section 31-7-5, pumped 260 bbls. of oil plus 50 bbls. of water in 24 hours and is a completion at 4,197 feet, in Simpson dolomite. It was treated with 2,000 gallons of acid.

Denver Producing & Refining Co. No. 1 Richards, SW NE NE Section 2-6-4, at total depth of 4,092 feet in Simpson dolomite, is a completion. This test found considerable oil in the Viola lime and the flow string is cemented at 3,991 feet permitting production from both the Viola and Simpson horizons. However, as testing proceeded water encroached and upon completion the well was making 90 bbls. of oil and 2,000 bbls. of water.

Hall and Briscoe No. 3 Coleman, NE NW NW Section 33-7-5, had Simpson dolomite pay at 4,105 feet and bottomed at 4,127 feet is good for 360 bbls. of oil and 500 bbls. of water daily.

There were six new starts in the St. Louis field in the past week, as follows: Gulf Oil Corp. No. 2 Johnson, SW SE NW Section 29-7-5, rig; Hall & Briscoe No. 2 Smith, SW NE NE Section 32-7-5, location; Alma Oil Co. No. 3 Smith, SW SE NE Section 32-7-5, rig; Alma Oil Co. No. 2 E. Curley, NW SE NW Section 33-7-5, rig; Atlantic Refining Co. No. 1 Goss, NW NW SE Section 6-6-4, rig, and Westheimer and Gulf Oil Corp. No. 2 McGee, NW SW NE Section 23-7-4, recompleted at 3,200 feet for 115 bbls. of oil in 24 hours after perforating flow string from 3,186 to 3,200 feet.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending October 1, and for the preceding week, was as follows:

	Barrels	
	Oct. 1	Sept. 24
Allen	6,850	6,775
Billings	4,750	4,850
Burbank	4,800	8,425
South Burbank	10,525	10,625
Balance Osage	18,850	18,900
Blackwell district	4,500	4,550
Bristow-Slick	6,725	6,875
Chandler	1,975	1,875
Crescent	3,925	3,975
Cromwell	3,425	3,475
Cushing-Shamrock	10,600	10,750
Duncan district	4,525	4,550
Edmond	5,000	4,875
Fish	3,450	3,375
Fitts	37,725	36,975
Jesse	2,025	2,000
Graham-Fox	4,750	4,775
Gray	900	925
Healdton	8,975	8,850
Hewitt	4,150	4,025
Keokuk	4,075	4,150
Konawa	1,375	1,350
Lucien	8,450	9,150
Moore	4,575	4,775
Oklahoma City	95,175	92,125
Olympic	4,725	4,750
Ramsey	2,100	2,050
Sasakwa	1,475	1,450
Sholem-Alechem	2,400	2,425
Seminole district:		
Bowlegs	9,500	9,350
Carr City	3,725	3,525
Dora	5,225	4,975
Earlsboro	5,350	5,300
South Earlsboro	500	475
East Earlsboro	5,250	5,025
Little River	7,625	7,550
East Little River	900	925
Maud	725	700
Mission	1,650	1,625
Seminole	8,725	8,550
East Seminole	1,775	1,725
Searight	2,950	2,250
Total Seminole	53,900	51,975
St. Louis-Pearson	24,225	23,750
Tatums	2,350	2,225
Tonkawa-Garber-Thomas	4,600	4,550
Wewoka	2,175	2,175
Yale-Jennings	3,925	3,950
Other pools	90,100	86,000
Total Oklahoma	454,050	448,275

Pontotoc County

Continental Oil Co. No. 4 House, SE NE SE Section 12-1-7, southern part of the Jesse field in Pontotoc County, was completed for a flowing potential of 3,700 bbls. of oil in 24 hours through tubing. Production is coming from the McLish formation with total depth at 4,668 feet.

Sunray Oil Co. No. 4 Shields, SW SE NW Section 33-5-8, Allen field in Pontotoc County, has been plugged back from total depth of 2,597 feet to 2,168 feet and completed for 30 bbls. of oil in 24 hours in the Gilcrease sand which was bottomed at 2,158 feet.

New work in Pontotoc County follows: Sinclair Prairie Oil Co. No. 4 McCarty, NW NW NE Section 22-2-7, old total depth 4,011 feet, plugged back to 1,372 feet and ripped casing at 1,371 and 1,358 feet in McAlester sand where it made 40 bbls. of oil in 24 hours on the pump; United Petroleum Corp. No. 2 Flemming, SE cor. Section 12-5-4, rig, and Sunray Oil Co. No. 41 L. Harjo, C N half SE NW Section 26-5-8, is being drilled to serve as a repressure well.

Pittsburg County

There were no completions in Pittsburg County the past week but two new operations were started, the most important probably being the location for a wildcat venture of S. J. Campbell in the N half NW SW Section 19-3-12, known as No. 1 Featherstone, which will seek production in the Hartshorn sand.

The other new test is Utilities Gas Producing Corp. No. 2 Hughes, NE NW NW Section 19-7-18, with cellar dug. This test is in the Quinton gas area.

Cleveland County

H. R. Hollenbach and associates have decided not to drill at this time at the location in the NW cor. Section 24-6n-1e.

Bob Rucker and associates have rig over the hole to plug back for a test of upper horizons in the No. 1 Norman, NW NW NE Section 17-9-2w, wildcat test 2 miles north of Norman drilled by H. R. Hollenbach and abandoned last October at 7,695 feet after penetrating the second Wilcox sand.

Osage County

Norbla Oil Co. and others No. 2, 810 feet north and 510 feet east of C Section 3-26-11, encountered 330,000 feet of gas in Oswego lime at 1,150 feet but has been abandoned at 1,715 feet due to casing dropping into the hole.

Harland Oil Co. No. 22, 300 feet south and 300 feet east of the NW cor. Section 25-24-11, an old producer, with original total depth at 1,687 feet, has been recompleted at 1,707 feet, total depth, in Bartlesville sand, where it pumped 4½ bbls. of oil in 24 hours. Trinity Oil Corp. No. 1, 330 feet north and 330 feet west of SE cor. Section 15-22-10, is dry and abandoned at 2,025 feet in Mississippi lime. Johnson Oil & Refining Co. No. 21, 2 feet south and 181 feet east of C Section 30-21-9, has been completed as an input gas well at 334 feet.

The new work in Osage County follows: W. H. Twynam No. 2, 300 feet north and 200 feet west of C Section 32-22-8, location.

Okmulgee-Muskogee Area

Oklahoma Oils, Inc. No. 2 Wells, SW SE NE Section 7-14-11, is dry and abandoned at total depth of 3,070 feet. After testing the second Wilcox sand which was dry, operators plugged back in a fruitless effort of revive production in the Mississippi lime at 2,770 feet which had previously shown for an estimated 25-bbl. producer.

Keokuk Oil Co. No. 7 Basem, CNL NE NE Section 36-14-12, had Dutcher sand at 1,936 feet with total depth at 1,957 feet where it is completed for 15 bbls. of oil daily on the pump.

T. J. Lynch and others No. 13 Thomas, 1,500 feet south and 1,000 feet west of the NE cor. NW Section

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30-14-14, found the Booch sand good for 5 bbls. daily and is a completion at total depth of 1,333 feet in sand.

J. W. King No. 1-A Henderson, 1,120 feet south and 1,120 feet west of the NE cor. NW Section 6-14-13 is dry and abandoned at 2,682 feet.

C. D. Burns No. 1-A Hughes, 300 feet south and 150 feet west of C Section 35-14-14, failed to develop production in the Booch sand and was abandoned at 1,191 feet.

William Staples and others No. 1 Hoppings, SE NE SE Section 21-12-11, flowed 35 bbls. of oil and 1 bbl. of water in 24 hours and is a completion in the Booch sand at a total depth of 2,210 feet.

Claude W. Garrett No. 1 Fuel, SW SW SW Section 22-14-18, is dry and abandoned with a hole full of water at 1,675 feet, total depth.

J. R. Parks No. 3 Hildebrand, SW NE SE Section 17-14-19, developed 1,000,000 feet of dry gas in shallow sand at 589 to 596 feet, total depth, and is completed.

New work in the Okmulgee, Muskogee, Okfuskee area is as follows: J. L. Selby Oil & Royalty Co. No. 36 Decker, 660 feet north and 500 feet west of C Section 35-14-14, drilling 800 feet; J. E. Dow No. 2-A Chatman, SE NW SE NW Section 13-14-14, shut down at 400 feet; Jim Wise Drilling Co. No. 1 Morrison, SW NW NE Section 16-15-13, location; J. R. Parks No. 4 Hildebrand, SE NW SE Section 17-14-19, drilling 100 feet; Transouthern Oil Co. No. 1 Bart Hall, C N half SW SW Section 27-11-15, in McIntosh County, is a location.

Tulsa-Creek Counties

Strozier Drilling Co. No. 3 Gidden, twin, NW NW SE Section 12-16-11, Creek County, is flowing 150 bbls. of oil and 50 bbls. of water in Dutcher sand and is a completion with total depth at 2,301 feet in the sand.

Abe Pepis No. 2-A Harrison, SW NE SE Section 15-18-12, Tulsa County, had a hole full of water at 1,935 feet, total depth, and the test is abandoned.

Hardesty and Suppes No. 5 Clinton, SE SE SW Section 23-19-12, logged the Big lime at 460 to 485 feet and a 100-quart shot responded with 3 bbls. of oil daily. It is completed.

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Southern Oklahoma

Magnolia Petroleum Co. No. 2 Cowan, 200 feet south and 200 feet east of the NW cor. SW Section 15-1-3w, in the Robberson pool in Carter County, is dry and abandoned at 2,073 feet in lime. This is an old producer with old total depth of 1,758 feet.

Carter Oil Co. has abandoned its deep test, No. 1 Feagin, C NW SW Section 36-2s-3w, southeast of the Fox pool in Carter County. The hole reached a total depth of 8,210 feet in Simpson formation where considerable testing was without avail and after considerable mechanical difficulty it was plugged back to upper horizons that carried showings but which also failed to develop production.

In the Healdton pool in Carter County, McGraw Oil Co. No. 27 Stewart Hawks, NW NE NW NW Section 4-4s-3w, is a new location.

Louis Sikes No. 8 Furst, SE NE NW Section 16-1s-8w, Rainola pool in Stephens County, encountered a hole full of water in a sand around 2,121 feet at which depth it was abandoned.

Louis Sikes No. 9 Mulkey, 1,070 feet south and 400 feet east of the NW cor. NE Section 16-1s-8w, Rainola pool, had oil sand at 2,029-55 feet and water sand at

(Continued on Page 87)

West Texas Fields

(Continued from Page 79)

feet, 188 bbls. Crump & Black No. 3-B R. Bennett, 5,135-5,340 feet, 2,046 bbls. Magnolia Petroleum Co. No. 1 Lynn, 5,123-5,165 feet, 312 bbls.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Brown County

Cunningham No. 1 J. D. Davis, dry and abandoned at 700 feet.

Eastland County

Lone Star Gas Co. No. 3 Cozart, 4,028-38 feet, 15 bbls.; No. 1 J. Penn, 4,141-70 feet, 150,000 feet of gas.

Fisher County

Forest Development Co. No. 1 P. Morrow, junked and abandoned. Owens-Snebold No. 1 J. H. Milsap, dry and abandoned at 3,590 feet. T. G. Shaw No. 1 J. B. Stribling, dry and abandoned at 1,446 feet.

Haskell County

Fain-McGaha Oil Corp. No. 1 Hendricks, 2,700-02 feet, 25 bbls.

Jones County

Dunigan Brothers & Hayer No. 1 Gaither, dry and abandoned at 4,831 feet. Fain-McGaha Oil Corp. No. 6 Daughtry, 1,905-31 feet, 341 bbls. Humble Oil & Refining Co. No. 15 Hollums, 3,220-31 feet, 475 bbls. King-Mortar & Bryan No. 1 Harris Estate, dry and abandoned at 2,040 feet. Roberts Co. No. 2 Pritchard, dry and abandoned at 1,340 feet.

Shackleford County

Guinn No. 17 Leschber, dry and abandoned at 430 feet. J. W. Keys No. 1 John Diller, 489-94 feet, 10 bbls. Knight & Ewing No. 12 Jeter, 1,163-66 feet, 45 bbls. Rodgers and others No. 2 Brooks, 114-16 feet, 2½ bbls. St. Marry's Oil & Gas Co. No. 8 Davis, abandoned location; No. 9 Davis, abandoned location.

Stephens County

H. C. Talbott No. 1 Wright, 3,890-95 feet, 50 bbls. oil and 17,000,000 feet of gas; No. 2 Wright, 3,883-3,930 feet, 9,150,000 feet of gas.

PANHANDLE FIELD COMPLETIONS

(24-hour tests)

Carson County

Huber No. 10-R S. B. Burnett, 2,207-2,693 feet, 28,076,000 feet of gas. Texhoma Natural Gas No. 1-E J. M. Poling, dry and abandoned at 3,305 feet.

Gray County

Gulf Oil Corp. No. 10 J. M. Saunders A, 2,950-3,001 feet, 391 bbls.

Hutchinson County

Continental Oil Co. No. 2-A J. M. Sanford, 2,700-35 feet, 44 bbls. Power Petroleum Co. No. 3 Jordan, 3,105-62 feet, 415 bbls.

California Field Report

By
L. P. STOCKMAN

177 Tideland Wells Will be Drilled, Starting This Month

LOS ANGELES, Calif., Oct. 3.—The way has been cleared for the initiation of tideland development in the Long Beach section of the Wilmington field, and the resumption of tideland exploitation in the Huntington Beach field. Tideland drilling will get under way in both areas not later than October 15, and continue for several months. The way was cleared in the Long Beach area when the Long Beach Harbor Commission approved a compromise agreement which makes it possible for immediate initiation of drilling and the city council of Long Beach at a special meeting approved and validated the compromise agreement between the municipality and the Long Beach Dock & Terminal Co. covering distribution of oil and gas royalties from wells to be drilled.

Signal Oil & Gas Co. was the successful bidder and must start work within 30 days and have not less than four strings of tools in operation before the expiration of that period, and an additional four strings of tools working within 60 days after final signature. At the end of 90 days the company must have started at least 10 wells.

Approximately 90 acres is involved in the agreement consisting of drilling sites around the turning basin and along the main ship channels. The wells will be located on properties of the Long Beach Dock & Terminal Co. and other adjacent properties and then whipstocked out beneath the tideland properties. Considerable red tape had to be cut before the situation reached its present status but the State Supreme Court recently ruled that these tidelands belonged to the city of Long Beach and not to the State of California.

Southwest Exploration Co. was the successful bidder on contracts offered by the State of California for development of the Huntington Beach tidelands. The successful company bid a royalty ranging from a minimum of 12½ per cent for wells producing 80.2 bbls. per day and under to 63.6 per cent royalty for wells producing 5,000 bbls. per day and over. Southwest Exploration Co. must start drilling within 30 days and keep two strings of tools in operation continuously until 18 wells have been drilled to completion. At least 12 of the wells must be direct offsets to wells already drilled on the upland. After these have been drilled the company must keep at least one string of tools in operation until one well has been drilled to each 10 acres. This means that a minimum of 87 wells must be drilled as the acreage involved is 835 acres, plus offset wells.

Southwest Exploration Co. was organized several years ago by Hancock Oil Co. for the specific purpose of bidding and securing the contract for development of the Huntington Beach tidelands. Subsequently Hancock Oil Co., Signal Oil & Gas Co. and Standard Oil Co. entered into a tripartite agreement, but later Standard Oil Co. withdrew, leaving Hancock and Signal as participants. Standard Oil Co. has issued a statement to the effect that the Standard Oil Co. is not a part of the Southwest Exploration Co. and has no connection with it beyond granting it permission to locate wells on certain uplands at Huntington Beach, of which Standard Oil Co. is the lessor, thus facilitating development of the state's oil lands. It does not participate in any profits which the Southwest Exploration Co. may earn if that company proves to be the successful bidder. It has also granted such permits, as have other upland landholders, to other bidders.

There are a number of wells already producing from the state's tidelands at Huntington Beach and all of them showed large initial and substantial cumulative production. Many of these tideland wells completed years ago are still producing several hundred barrels per day. Certain sections of the tideland pool have been subjected to greater withdrawals and the initial daily production of new wells and cumulative production are expected to vary accordingly. The completion depth is approximately 5,200 feet, but this will vary depending upon the deviation necessary to place the bottom at the preselected point. It is believed that about one-half of the Barley Flats structure is located beyond the tide line with the apex rather close to the shoreline. The crude produced in this area tests about 26 degrees and most wells show a good gas pressure even though they have been on the beam for a year or two.

The two contracts call for the drilling of a minimum of 177 tideland wells. Some will probably show small production, but the average initial for the next several months should be well in excess of 500 bbls. per day which means that the first 25 wells will have a minimum aggregate initial production of about 12,500 bbls. The existing curtailment program provides for a maximum allowable production of 400 bbls. per day which will be adhered to, but the policy of operators producing from the tideland pool at Huntington Beach means that Southwest Exploration Co. may not be able to conform with strict curtailment without failing to produce barrel for barrel against other operators who already have wells producing from the tideland accumulation. Hancock Oil Co. and Signal Oil & Gas Co. will undoubtedly conform as closely as possible with curtailment as they have always done.

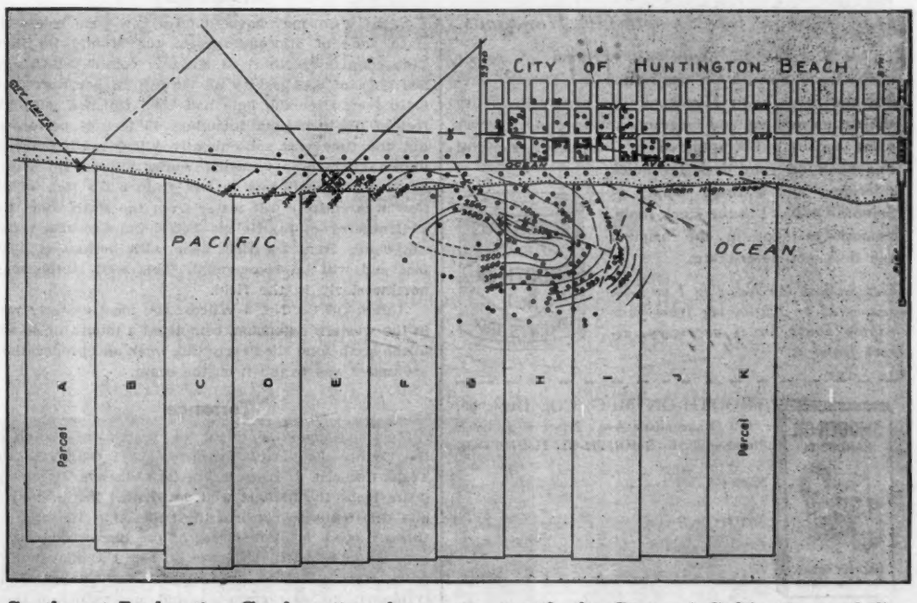
Wildcat Operations

Richfield Oil Corp. staked location for No. 1 Dominguez Estate, a wildcat, between the Dominguez and Long Beach fields in Section 2-3-13, and within 1,000 feet of a deep test drilled several years ago by Oak Ridge Oil Co. and in an area that has been tested several times by various operators without success. Richfield has blocked up about 700 acres and expects to develop commercial production in the Miocene.

In the Rosecrans district of Los Angeles Basin preparations are under way to drill several tests around the outside of the present productive area. Practically all of the acreage west, south and east of the field has been leased for a distance of about 2 miles by various operators who all seem to have the idea that a new productive area should be expected somewhere in the general area. Richfield Oil Corp. has leases south and southeast of the field while Standard Oil Co. has leased large blocks of acreage to the west. Western Gulf Oil Co. has formed the opinion that a new productive area can be expected east of the field and has started preparations to drill a wildcat on the Bagg lease, 328 feet north and 3,443 feet east from the SW cor. Section 17-3-13, and has an elevation of 124 feet. Western Gulf has taken 50 separate leases covering approximately 600 acres and has just about completed its leasing program. This will be a fault play as will be most of the other tests scheduled to be made around the existing field. As is the case at Dominguez, faulting is an important factor in the accumulation of oil and gas in the Rosecrans field. The dominating influence of faulting was indicated this week when Barnsdall Oil Co. drilled into a fault in No. 6 Rosecrans at about 6,250 feet. The well was carried down to 7,775 feet but wound up on the wrong side of the fault and the company suspended work.

Santa Maria Valley

In the Santa Maria Valley field of Santa Barbara County, all but a relatively few wells have been shut in since early in July due to the inability of producers to find a suitable market. Petrol Co. has been shipping some of this crude oil along with Gato Ridge crude to the Atlantic Coast for several months on a net-back approximating 30 cents per barrel. This crude oil which has a gasoline content of about 20 per cent is an excellent grade for asphalt production and would undoubtedly find a ready market on the East Coast if imports of similar heavy Mexican crude were eliminated. The present low price schedule covering Santa Maria Valley crude permits the movement to the Atlantic seaboard if the market in that area could absorb it. George F. Getty, Pacific Western and Signal Oil & Gas Co. are storing varying amounts and trucking the bal-



Southwest Exploration Co. has signed a contract with the State of California to drill a minimum of 87 wells on the uplands and bottomed beneath the Pacific Ocean by directional drilling. Note several faults

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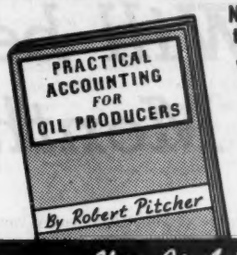

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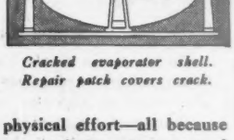

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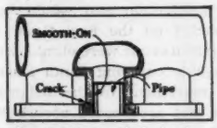

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TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—	September 23 Total this week	September 23 Daily average	September 16 Total last week	September 16 Daily average	This year to date	Same time last year
Crude oil	70,424	10,061	.....	.....	777,911	68,038
Diesel and gas oil	.....	.....	.....	.....	.....	176,726
Gasoline	.....	.....	.....	.....	2,437,678	3,145,537
Kerosene	.....	.....	.....	.....	257,005	328,907
Foreign exports—						
Crude oil	.....	.....	94,754	13,536	16,552,266	10,516,317
Fuel oil	255,279	36,468	251,032	35,862	6,581,083	10,345,111
Diesel and gas oil	.....	.....	89,295	12,756	4,658,810	5,803,243
Gasoline	.....	.....	92,256	13,179	5,815,696	6,277,297
Kerosene	137,491	19,642	.....	.....	825,046	1,644,071
Lubricants	29,035	4,148	41,226	5,889	173,388	12,984
Other unfinished oil	.....	.....	.....	.....	.....	910,122
Coastwise-domestic—						
Crude oil	195,606	27,944	187,580	26,797	8,986,286	3,745,818
Fuel oil	177,524	25,363	571,954	81,708	8,336,692	11,436,611
Diesel and gas oil	30,365	4,338	40,005	5,715	1,161,530	1,724,142
Gasoline	242,666	34,667	303,549	43,364	10,958,045	11,484,251
Kerosene	14,672	2,096	.....	.....	190,180	308,619

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	196,644	152,932
Gasoline	.....	.....	.....	.....	25,409	25,778
Kerosene	.....	.....	.....	.....	16,124	72,750
Asphalt	.....	.....	71,339	10,191	490,039	351,394
Lubricants	.....	.....	.....	.....	16,905	25,522
Foreign exports—						
Crude oil	38,991	5,713	173,103	24,729	4,420,521	2,236,637
Fuel oil	84,755	12,108	42,986	6,141	2,025,654	1,613,624
Diesel and gas oil	29,207	4,172	6,498	928	2,194,266	2,457,484
Gasoline	.....	.....	151,547	21,650	4,340,663	3,991,162
Kerosene	.....	.....	15,396	2,199	667,954	778,893
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	40,867	5,838	6,838	977	400,297	455,797
Coastwise-domestic—						
Fuel oil	85,822	12,260	96,712	13,816	4,417,076	4,809,354
Diesel and gas oil	38,914	5,559	59,104	8,443	1,114,763	933,756
Gasoline	139,255	19,894	260,526	37,218	5,857,232	3,848,003
Kerosene	14,803	2,115	3,680	526	399,831	224,946

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Crude oil	70,424	10,061	.....	.....	777,911	68,038
Diesel and gas oil	.....	.....	.....	.....	196,644	329,658
Gasoline	.....	.....	.....	.....	2,463,087	3,171,315
Kerosene	.....	.....	.....	.....	273,129	401,657
Asphalt	.....	.....	71,339	10,191	490,039	351,394
Lubricants	.....	.....	.....	.....	16,905	25,522
Foreign exports—						
Crude oil	38,991	5,713	267,857	38,265	20,972,787	12,752,954
Fuel oil	340,034	48,576	294,018	42,003	8,606,737	11,958,735
Diesel and gas oil	29,207	4,172	95,793	13,685	6,853,076	8,260,727
Gasoline	.....	.....	243,803	34,829	10,156,359	10,268,459
Kerosene	137,491	19,642	15,396	2,199	1,493,000	2,422,964
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	69,902	9,986	48,064	6,866	573,685	468,781
Other unfinished oil	.....	.....	.....	.....	.....	910,122
Coastwise-domestic—						
Crude oil	195,606	27,944	187,580	26,797	8,986,286	3,745,818
Fuel oil	263,346	37,621	668,666	95,667	12,753,768	16,245,965
Diesel and gas oil	69,279	9,897	99,109	14,158	2,276,293	2,657,898
Gasoline	381,921	54,560	564,075	80,582	16,815,277	15,332,254
Kerosene	29,475	4,211	3,680	526	590,011	533,565

ance to their respective tank farms in Los Angeles Basin. Union Oil Co. completed two new wells and the Hancock-Bush interests finished another last week. Union's new producers were No. 2 Security, completed pumping 452 bbls. of clean 16.7-gravity oil per day from 4,682 feet and No. 4 Vicente, finished pumping 330 bbls. of clean 16.5-gravity oil daily from 5,153 feet. The new well of Hancock-Bush interests was No 3 Bradley lands in Section 26-10-34, completed flowing 510 bbls. of clean 16.4-gravity oil per day from 5,139 feet.

Montebello

V-8 Oil Co. may have found a new zone below the sixth zone of Miocene age in the Montebello field. This company's No. 1 M. B. was completed flowing 500 bbls. of 33.3-gravity oil cutting 25 per cent from 6,410 feet, after the hole had been finished with 216 feet of 6⅝-inch liner including 45 feet of perforated but the flow was subsequently killed preliminary to undertaking some remedial work. Montebello Wesco No. 1 Extension came in wet from 6,275 feet as the flow was entirely salt water from the sixth zone. No. 29 Monterey of St. Helens Petroleum Co. also tested salt water from the fifth zone with bottom at 5,598 feet and will be recemented. This well is the most northwesterly in the field.

Union Oil Co. No. 2 Wilcox, the most easterly well in the western extension, completed a month or so ago in the sixth zone, died early this week and preparations are under way to put it on the beam.

Torrance

In the Harbor City area, less than a mile south of the Lomita district of Torrance, No. 1 Oakley of the Texas Co. east of D. & B. Oil Co.'s discovery well appears to be the highest well yet drilled in the district and this tends to confirm the belief that the apex of this structure is located east of the discovery well. A production test will be made on No. 1 Oakley within a few days and good production is anticipated. J. L. O'Donnell No. 43 Lomita was put on production flowing 510 bbls. of 29.3-gravity oil cutting 6 per cent from 5,346 feet but bottom water subsequently broke in and the well was killed in order to undertake remedial work. One new well and two recompletions were chalked up in the Lomita section of the Torrance field during the week. Star Petroleum Co. No. 1 Patton was completed pumping 146 bbls. of 25.4-gravity oil cutting 15 per cent daily from 5,145 feet after the hole had been carried down to 5,285 feet and then plugged back. The bottom plug is not holding and it is probable that some necessary remedial work will be undertaken. No. 4 Marble of Pacific Western Oil Co. has been completed pumping 105 bbls. of 26.2-gravity oil daily from 4,986 feet after being redrilled and deepened from the upper to the lower zone. This well was finished with 200 feet of 5-inch liner including 75 feet of 80-mesh perforated landed at 4,987 feet. W. E. McCaslin No. 2 Lomita has been recompleted pumping 102 bbls. of 25.6-gravity oil cutting 3.6 per cent daily from 4,993 feet after the hole had been finished with 91 feet of 5-inch liner including 67 feet of 125-mesh screen landed on bottom.

Rio Bravo

General Petroleum Corp. in the Rio Bravo field of Kern County completed No. 4 Wagoner in Section 35-28-25, flowing 3,660 bbls. of 39.1-gravity oil and 4,000,000 feet of gas per day through a 40/64-inch bean. The new well, which has an elevation of 330 feet above sea level, was bottomed at 11,510 feet and finished with a 6⅝-inch water string with 4,368 feet of 7-inch on the bottom and cemented at 11,327 feet and 233 feet of 4¾-inch liner including 160 feet of 125 mesh.

General Petroleum Corp. recently completed laying 13 miles of new 6-inch line to connect its producing properties with its main trunk line extending from Kettleman Hills to Los Angeles Basin.

East Coalinga

The productive limits of the East Coalinga field of Fresno County appear to have been proved in two directions. Universal Consolidated Oil Co. No. 1 Leavitt-Hintze in Section 12-20-15, less than 1 mile west of the discovery well, found the Avenal zone or its equivalent barren. This well was carried down to 8,108 feet. Tide Water Associated Oil Co. No. 66 Guardian in Section 12-20-15, located northeast of No. 1 Leavitt-Hintze,

is down 6,550 feet and has not yet logged the Gatchell zone. Based on correlation work this zone should have been found in No. 66 Guardian at about 6,400 feet. This well is not yet deep enough to say definitely that it will not encounter the Avenal zone but it indicates that if the productive zone is present the zone is dipping very steep.

Kettleman Hills

Kettleman North Dome Association completed two new wells in the Kettleman North dome field. No. 38-6-Q in Section 6-22-18, was completed flowing 1,098 bbls. of 36.4-gravity oil and 550,000 feet of natural gas per day from the Temblor with bottom of the hole at 8,205 feet. The hole was finished with 355 feet of 5¾-inch liner landed on bottom and carrying perforations at 7,896-7,952 feet, 7,982-8,037 feet, 8,081-8,146 feet and at 8,176-8,201 feet and 7,825 feet of 3-inch tubing. Kenda No. 43-20-Q in Section 20-22-18, has been completed flowing 140 bbls. of 33.3-gravity oil and 430,000 feet of natural gas per day from the Temblor at 8,914 feet. This well was brought in on a compressor.

Ventura Avenue

Tide Water Associated Oil Co. completed an excellent well in the Ventura Avenue field when No. 11 McGonigle was brought in flowing 1,120 bbls. of clean 30.8 gravity oil and 717,000 feet of natural gas per day through a 34/64-inch bean from the deep 57 zone at 10,125 feet. This new well, which shows a tubing pressure of 260 pounds and a casing pressure of 1,125 pounds, is the most northeasterly producer in the field at the present time that is drawing from the lower zone. General Petroleum Corp., which recently completed No. 18 Barnard in the deep zone and thereby extended the productive limits of the 57 zone up into the northern end of the field, is rigging up No. 16 Barnard preparatory to deepening it to the lower horizon.

Wilmington

In the Wilmington field Union Pacific Railroad Co. No. 82 was finished flowing 507 bbls. of clean 17.3 gravity oil, cutting 3 per cent, from the Ranger zone with bottom of the hole at 3,527 feet. Union Pacific is running four strings of tools in this field at present, one of which however is not being drilled in search of production. This well is designated as well No. A and it is being drilled into the Ranger zone for use as a gas injection well. It is being drilled in order to conserve natural gas and to stimulate ultimate recovery of the Ranger zone.

In the Dominguez field Shell Oil Co. has completed No. 96 Reyes flowing 693 bbls. of 30.2 gravity oil, cutting 18 per cent, from the upper or first zone with bottom of the hole at 4,860 feet. The well is flowing 390,000 feet of natural gas along with the crude oil.

In the Fruitvale field Western Gulf Oil Co. has recompleted No. 4 Price-Stewart flowing 181 bbls. of 22.5 gravity oil per day from 3,870 feet.

Oklahoma Fields

(Continued from Page 84)

2,125-27 feet, total depth, and was completed for 40 bbls. of oil and 30 bbls. of water.

Indian Territory Illuminating Oil Co. completed No. 3 Dickey, C SE SE NW Section 1-3s-19w, Frederick pool, Tillman County, for 377 bbls. of oil in 24 hours, flowing through 2½-inch tubing with production coming from the lime pay with total depth of 3,122 feet.

New work started in the southern Oklahoma fields during the past week follows: Tri Oil Co. No. 1-B Schiek, 330 feet south and 500 feet east of the NW cor. NE Section 27-1s-8w, pits dug; W. J. McAllester No. 3 Wade, 450 feet north and 660 feet east of C Section 11-2s-8w, derrick; J. C. Taylor No. 3 fee, 200 feet south and 1,120 feet west of NE cor. Section 10-3s-5w, spudding 30 feet; S. & S. Oil Corp. No. 1-A Kirkus, 225 feet south and 1,200 feet west of the NE cor. NW Section 29-2-10w, drilling 355 feet, and S. & S. Oil Corp. No. 1 School land, SW SE SW Section 20-2-10w, estimated for 20 bbls. daily in sand around 972 feet after plugging back from old depth of 1,596 feet.

Oklahoma Panhandle

The Republic Natural Gas Co. is progressing with its drilling program in the Oklahoma Panhandle and has two drilling wells and four locations. Two of the latter were announced the past week, being No. 1 Bunger, 50 feet north and 1,320 feet west of the SE cor. Section 13-6n-15ecm, and No. 1 F. A. Judd, 50 feet north and 1,320 feet east of the SW cor. Section 24-6n-15ecm.

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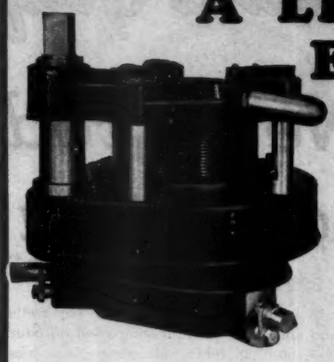

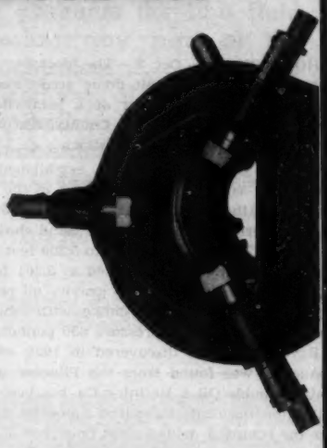

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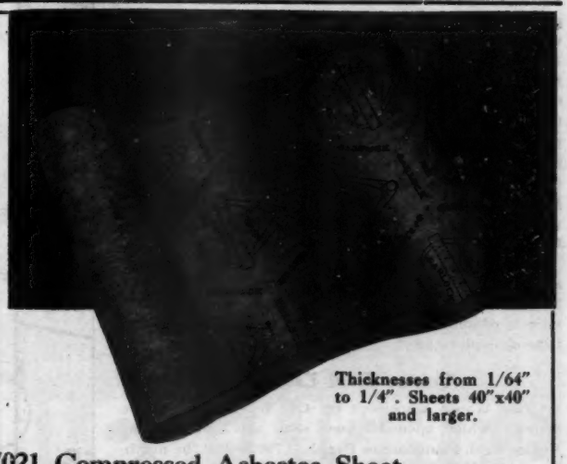

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Texas and Louisiana Gulf

By
NEIL WILLIAMS

Open New Producing Sands on 2 Louisiana Salt Domes

HOUSTON, Tex., Oct. 3.—The discovery of new producing sands on two salt dome structures in coastal Louisiana, and the testing of a semiwildcat in the Cotton Lake area, Chambers County, featured developments along the Gulf Coast district.

Humble Oil & Refining Co. established production from a new sand on the north flank of the Bayou Blue salt dome, Iberville Parish, with the completion of No. 8 Wilberts, Section 66-9s-11e. Sand showing oil was topped at 5,203 feet, and cored to 5,209 feet, total depth. Seven-inch casing was cemented at 5,201 feet, and the well produced 245 bbls. of 26 gravity oil per day, flowing through a quarter-inch choke, with tubing pressure 120 pounds and casing pressure 650 pounds.

Bayou Blue was discovered in 1928 when shallow production was found from the Pliocene and Miocene sands. Humble Oil & Refining Co. has been engaged in drilling on the dome the past 16 months, during which time the company drilled eight holes, six of which were dry, and two were shallow producers. The deepest test, No. 6 Wilberts, was abandoned at 7,342 feet, but showed evidence of deep production which has been an incentive for further development around the flanks of the structure.

To the northeast at Bayou Choctaw, Standard Oil Co. of Louisiana and others No. 1 Marley Cypress Co., Section 29-8s-11e, opened the first Oligocene production on the north flank and extended production into West Baton Rouge Parish, when it flowed 904 bbls. of 38.9 gravity oil per day through a three-eighths inch choke with tubing pressure 900 pounds and casing pressure 1,110 pounds. Sand showing oil was topped at 8,262 feet and cored to a total depth of 8,274 feet. Six-inch casing casing was cemented at 8,260 feet. While this is the first producer to be completed in this sand, its presence has been known since the first of the year, as a result of a deep test drilled by Louisiana Crusader Oil Co. on the Schwing lease which was abandoned below 8,900 feet due to mechanical trouble that was caused by an attempted blowout. The latter company is drilling No. 3 Schwing, which has reached a depth of 8,855 feet.

The development of new sands around the salt structures of coastal Louisiana has been one of the most interesting features during the year as several million barrels of additional reserves have been added by this type of exploration.

Venice Field Extended

Tide Water Associated Oil Co. No. 1 Buras Levee district, which opened a new sand and extended the Venice field, Plaquemines Parish, 2,700 feet to the north, flowed 1,180 bbls. per day through a three-eighths inch choke. The well is producing through perforated casing at 5,618-58 feet in a saturated sand section of 108 feet. While the main pay of the field has been from 7,200 feet, other sands are known to be present, and the company is preparing to drill a twin well to the recent completion which will attempt open production from a 90-foot sand section at approximately 3,500 feet.

In the Jeanerette field, St. Mary Parish, Herton Oil Co. was running screen in No. 1-A Roane Sugar Co., Section 38-13s-9e. The casing was perforated at 9,960-70 feet, and the well tested 850 pounds of pressure, 250 joints of oil and 20 joints of salt water. Several attempts to complete the well below 10,000 feet failed.

Location for another test has been made in the Lirette field, Terrebonne Parish, by Humble Oil & Refining Co. The well is located on the LaTerre, Inc., lease, Section 31-19s-19e. The company's No. 1 Verret, Section 32, is drilling in shale below 10,948 feet.

Amerada Petroleum Co. has rigged up another test in the Raceland field, Lafourche Parish. It is No. 3 South Coast Corp., in Section 34-15s-19e. Interest in the field is centered on Tide Water Associated Oil Co. No. 1-A South Corp. in Section 34, which is reported to be checking from 75 to 100 feet higher than other wells in the field. Sand and sandy shale having good oil odor were logged at 7,160-7,228 feet. Salt water sand was cored at 7,230 feet, and the hole is below 7,390 feet in salt water sand.

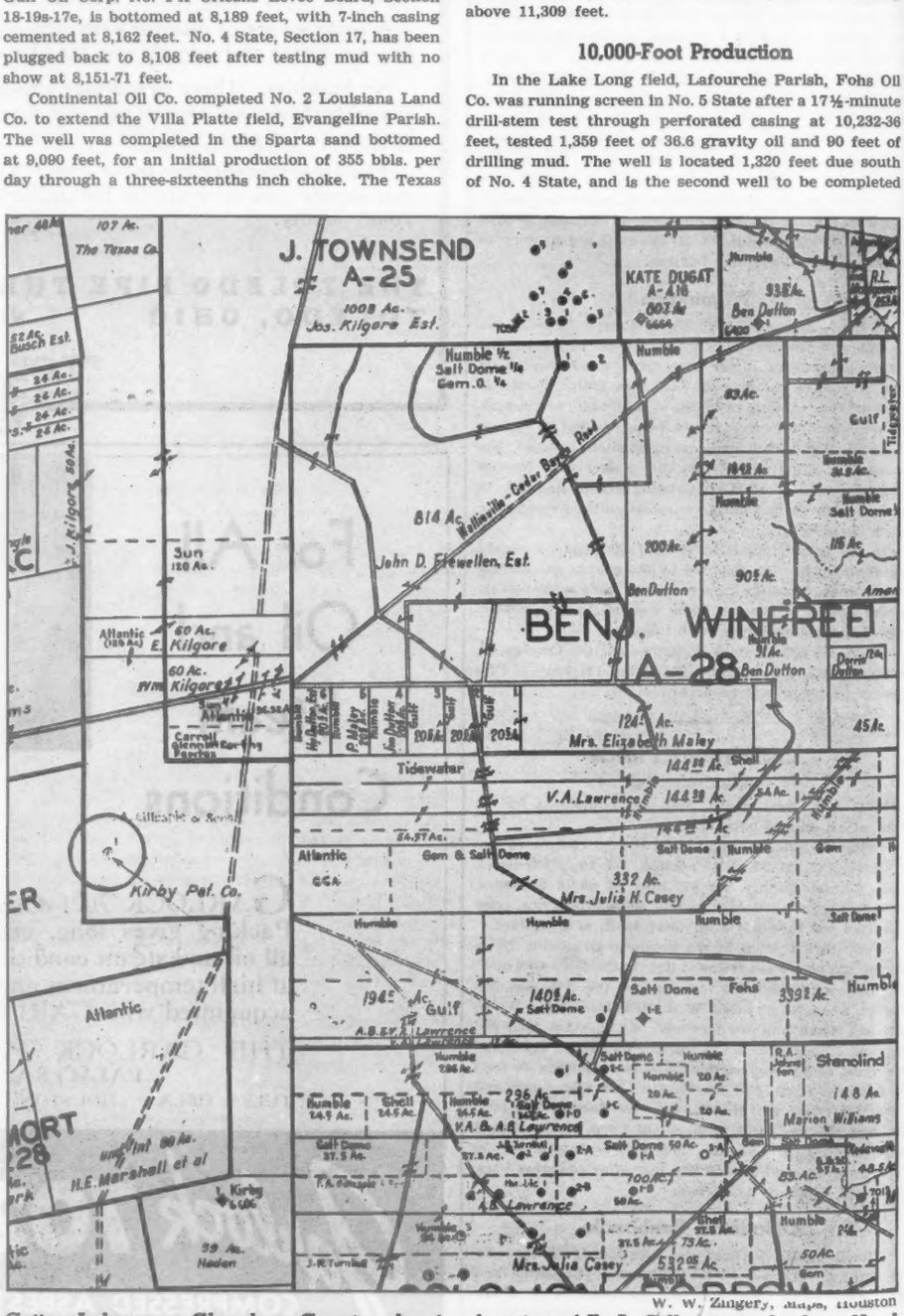
In the Quarantine Bay field, Plaquemines Parish, Gulf Oil Corp. No. 1-A Orleans Levee Board, Section 18-19s-17e, is bottomed at 8,189 feet, with 7-inch casing cemented at 8,162 feet. No. 4 State, Section 17, has been plugged back to 8,108 feet after testing mud with no show at 8,151-71 feet.

Continental Oil Co. completed No. 2 Louisiana Land Co. to extend the Villa Platte field, Evangeline Parish. The well was completed in the Sparta sand bottomed at 9,090 feet, for an initial production of 355 bbls. per day through a three-sixteenths inch choke. The Texas Co. has entered the field with the staking of locations for No. 1 and No. 2 fee in Section 27-3s-2e.

In the South Roanoke field, Jefferson David Parish, Continental Oil Co. was preparing to test No. 1 Joe Sturdivant, which was drilled to a total depth of 12,088 feet. A short string of liner was cemented at 12,086 feet, and the well will be tested through perforated casing above 11,309 feet.

10,000-Foot Production

In the Lake Long field, Lafourche Parish, Fohs Oil Co. was running screen in No. 5 State after a 17½-minute drill-stem test through perforated casing at 10,232-36 feet, tested 1,359 feet of 36.6 gravity oil and 90 feet of drilling mud. The well is located 1,320 feet due south of No. 4 State, and is the second well to be completed



W. W. Zingery, Maps, Houston

Cotton Lake area, Chambers County, showing location of F. A. Gillespie and others No. 1 Kirby Petroleum Co. which is being tested after logging oil and gas showings at 6,385-6,423 feet

in the 10,000-foot zone.

Sun Oil Co. has staked location for a second test on the Chacahoula salt dome, Lafourche Parish. The well is No. 3 Dibert, Stark & Cypress Co., 40 feet from the discovery well in Section 70-15s-15e.

Location for a second wildcat on the Coon Point prospect in Calliou Bay, Terrebonne Parish, was made by the Texas Co. The well is No. 2 State, 5,600 feet south of No. 1 State in Township 23s-14e.

Along the Texas Coast, F. A. Gillespie and others No. 1 Kirby Petroleum Co., a semiwildcat 9,000 feet northwest of the South Cotton Lake field, and about 2 miles southwest of the North Cotton Lake field, Chambers County, was the center of interest as casing is being cemented for a production test. Sand with an oil odor was cored at 6,403-6,415 feet, and sandy shale with an odor or oil at 6,415-23 feet. Salt water sand was cored at 6,473-83 feet, and the hole is bottomed at 6,523 feet. An electric coring survey was made of the hole and the casing is being cemented for a production test at 6,385-6,423 feet.

In the south Cotton Lake field, and southwest of production, J. R. Turnbull No. 2 Casey made a 20-minute drill-stem test at 6,489-6,528 feet, and recovered 59 thribbles of oil and 115 pounds of working pressure. Oil sand was cored at 6,399-6,413 feet, and sandy shale and sand with an oil odor was logged at intervals at 6,435-6,528 feet.

Two wildcats in Montgomery County were being watched with interest. Deep South Petroleum Co. No. 1 Foster Lumber Co., Pryor-Bryan Survey, was coring for the Cockfield sand below 6,010 feet, while Jack Frazier No. 1 Chase National Bank, D. Garrett Survey, was coring in sand with a brackish taste at 5,406 feet. The Hockleyensis was topped at 5,377-5,407 feet, and the well is reported to be running low on this marker. Approximately 2 miles to the north in the Archibald Hodge Survey, Mills Bennett Production Co. and others No. 1 W. F. Griffin, a projected 9,000-foot test, has been spudded.

Extension of Sandy Point

The Sandy Point field, Brazoria County, was extended a short distance to the southeast with the completion of Stanolind Oil & Gas Co. No. 4 J. A. Fite, completed for an initial production of 394 bbls. per day through a quarter-inch choke, with tubing and casing pressure equalized at 575 pounds. The well is producing from a screen setting at 6,488-6,500 feet, the total depth.

Location for a second test in the recently opened North Markham field, Matagorda County, was made by the Ohio Oil Co. The well is a north offset to the discovery well in Block 9, I.&G.N. Survey No. 2. The discovery well, No. 1 Cornelius, flowed 118 bbls. of oil plus 17 bbls. of basic sediment and water, on a 24-hour potential test, through a one-eighth inch choke with casing pressure 1,400 pounds. Production is from the Frio formation through perforated casing at 7,727-30 feet.

In the Cordelle field, Jackson County, H. J. Porter No. 4 Pressly has been completed for a dry gas well, estimated at 1,500,000 feet daily through perforated casing at 2,637-43 feet. Magnolia Petroleum Co. has derrick up for No. 3 Drushel, in the I.&G.N.R.R. Survey.

In the western half of Jefferson County and about 4 miles northeast of Lovells Lake, Humble Oil & Refining Co. staked location for No. 1 Margaret Todd, a projected deep test in the William Carr Survey.

Location for a second wildcat was made on the Bolivar Peninsular prospect, Galveston County, by the Sun Oil Co. The location was made on the R. W. Humphrey lease in the Reuben Barrow Survey, about 2,000 feet northwest of the G.C.&S.F.R.R. Survey. The well is southeast of No. 1 Cade, a recent dry hole which logged some interesting showings.

In the Rosslyn area, 4,000 feet east of the Fairbanks field, Harris County, Stanolind Oil & Gas Co. cemented 7-inch casing in No. 1 A. S. Schumacher at 7,252 feet, preparatory to testing several showings below 7,200 feet. The casing will be perforated between 7,208-20 feet, as salt water sand was logged at 7,220-25 feet. This well is located northeast of No. 1 Fritz Look, which was an oil well at 6,947-56 feet, and the 7,200-foot sand is believed to be the same sand from which Union Producnig Co. No. 1 Goodykoontz, 4,000 feet to the north, was completed as a gas well.

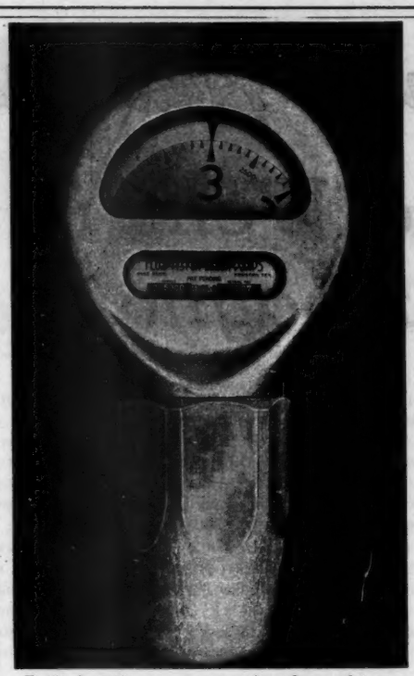
COMPLETIONS ON TEXAS GULF COAST

(24-hour production)

Brazoria County

Hastings field: Humble Oil & Refining Co. No. 1-G

(Continued on Page 93)



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North Louisiana, Arkansas

By GEORGE WEBER

Good Wells in Schuler and Champagnolle, in Arkansas

SHREVEPORT, La., Oct. 3.—Routine field operations marked the past week of developments in North Louisiana, Arkansas and the Eastern Texas border counties. Completions were up from the preceding few weeks, and new activity is noticeable in some areas, although in general drilling is off considerably, compared with a number of weeks ago.

Arkansas

The Schuler field of Union County is the most active drilling center in the district. The Jones sand is being extensively developed, and the decrease in allowable given the field last week has not yet been reflected in a decline in drilling. During the week four good wells were completed at Schuler.

The Atlantic Refining Co. brought in No. 2 Dumas, SE cor NE NW Section 21-18-17, on the southeast edge of the field for an initial gauge of 532 bbls. daily, heading through chokes varying from five-eighths to three-fourths of an inch. The Lion Oil Refining Co. completed No. 2 Clarence, Lot 1, SW Section 7-18-17, for 270 bbls. daily and the No. 2 Dee, SW cor. SE NW Section 17-18-17, made an initial production of 480 bbls. daily. The best well of the week was brought in by Roberts & Murphy, No. 2 Leona, NW cor. Lot 6, SW Section 7-18-17, which gauged 680 bbls. per day through a 24/64-inch choke with tubing pressure of 600 pounds and casing pressure of 625 pounds.

In the Champagnolle area, Union County, J. R. Lockhart completed a good producer, No. 2 Rawlston, NE NW SE Section 12-17-14, which gauged 22 bbls. hourly during the first three hours through a 20/64-inch choke. A packer was set on tubing at 2,905 feet and the well flowed 34 bbls. hourly through a half-inch choke. Tubing pressure was 420 pounds, and gas production was estimated at 500,000 feet daily. The gravity of the oil is 31.7 degrees, A.P.I. The producing sand is at 2,985-96 feet and the well is bottomed at 2,996 feet.

The eighth producer in the Buckner field of northwestern Columbia County was brought in by Standard Oil Co. of Louisiana. No. 2 Warren topped the Buckner at 6,975 feet and 6-inch casing was set at 7,218 feet. Plug was drilled and a 9-inch hole was underreamed. After washing the hole with oil it failed to kick off, and operators swabbed, and acidized with 2,000 gallons. After running the swab five times, the well started flowing and made 11 bbls. per hour. Upon reacidizing with 4,000 gallons the test flowed 41½ bbls. hourly, the fluid consisting of 40 per cent heavy asphaltic emulsion. It was turned into the pits over night, and the next morning it was flowing at the rate of 8½ bbls. hourly, and making 20 per cent of the heavy emulsion. It was completed at total depth of 7,255 feet and turned into tanks.

North Louisiana

The Shreveport field marked its second oil well as the R. E. Allison No. 2 Ellerbee, west offset to the discovery, cored the field sand and assured a westerly extension. The most important test, in the area, however, is still a mystery, as operators continue "tight" on information. The current outstanding test, Superior Oil Co. and F. W. Martin Drilling Co. No. 1 Querbes, located 7 miles southeast of the Allison wells, has reached contract depth below 6,000 feet and Schlumberger has been run, which showed porosity in Pettit lime at 5,640-60 feet and in Travis Peak at 5,905-11 feet. There is a possibility of production but nothing certain can be said of it until a drill stem test has been made.

Allison's offset well, No. 2 Ellerbee, cored at 5,540-54 feet and at 5,554-69 feet, and the top of porosity was reported at 5,546 feet. The well checked closely with No. 1, and pipe will be set and the well completed early in the coming week.

A southwest outpost wildcat, west of the Mansfield Road, Hollywood Oil Corp. No. 1 C. & B. Realty Co. is drilling below 2,957 feet. A good show of gas was had in the Woodbine, and other markers checked favorably with subsurface data in the area.

The first rig to begin drilling within the city limits of Shreveport is Rodessa Oil & Refining Co. No. 1 Chandler, in the Lakeside Park subdivision, extreme northwest corner of the city limits. This brings the total of drilling wells to seven in the immediate area and in outpost wildcat locations from the Allison discovery.

Production by Pool

Estimated daily gross production all companies week ending October 1:

NORTH LOUISIANA

	Barrels
Bellevue	650
Caddo light	4,010
Caddo heavy	2,480
Converse	470
Cotton Valley heavy	85
Cotton Valley light	*11,205
Cross Lake	500
De Soto and Red River	1,315
Elm Grove	370
Havnesville	3,110
Holly	110
Homer	2,660
Lisbon	3,900
Pleasant Hill	120
Rodessa	34,320
Sarepta-Carterville	†500
Sligo	1,695
Sugar Creek	275
Uranin	2,685
Zwolle	3,230
Total	73,690

SOUTH ARKANSAS

Buckner	1,470
Champagnolle	1,050
El Dorado	1,835
Lisbon	270
Miller County	390
Nevada	620
Rodessa	5,680
Schuler	24,940
Smackover light	2,035
Smackover heavy	16,000
Stephens	560
Troy	1,190
Urbana	1,175
Village	535
Total	57,750

Texas side of Rodessa field 30,975 bbls. daily.

*3.400 bbls. is distillate.
†200 bbls. is distillate.

Cotton Valley

The deepest test yet drilled in Cotton Valley was plugged back and completed in the past week. The Hunt Oil Co. No. 8 Babb, drilled to a total depth of 9,017 feet was plugged back and completed in the Bodcaw sand for a daily gauge of 201 bbls. of distillate and 3,000,000 feet of gas, through a quarter-inch choke. Tubing pressure was 2,900 pounds and casing pressure was 3,000 pounds. Hunt is now drilling below the Bodcaw in No. 1 Pardee, a southeast edge test. The Bodcaw was topped at 8,252 feet, the Davis sand at 8,523 feet and the test is drilling ahead at 8,700 feet.

At a hearing held in Baton Rouge last week, operators discussed the points of well spacing and allowable for the oil producing area in the Cotton Valley lower Marine, the classing of producing horizons in the lower Marine, and the possibility of recycling and pressure maintenance. The Louisiana Department of Conservation, which called the hearing, is not expected to act with rulings for several weeks, as all discussion was taken under advisement.

The Bisteneau gas area was extended to the west with the completion of the De Soto Oil & Gas Co. No. 1 Fleming, which gauged an estimated 40,000,000 feet of gas daily on open flow. Casing was perforated in the Pettit lime producing horizon, with total depth of the test at 5,525 feet.

Western Kentucky

(Continued from Page 70)

spudding in; Cumberland Petroleum Co. No. 1 Lee Hawkins, spudding in. Rochester district: Porter Evans and others No. 2 J. F. Hayes, spudding in; Jess Ashby and others No. 1 Jim Ray, location.

In Caldwell County, Farmersville district: F. C. Thomas and others No. 1 H. A. Hillyard, drilling at 600 feet.

Daviess County, Birk City district: Major Oil Co. No. 1 Prudential Insurance Co., 95 acres, Brown tract, estimated at 300 bbls., but will acidize; Snowden & McSweeney No. 1 Helen B. Fisher, rigging up; Bailey-Bond-Hayes and others No. 2 R. M. Hagan, McClosky saturation at 1,850-75 feet, will drill in with cable tools; Carter Oil Co. No. 3 R. M. Hagan, moving in; Jess Ashby and others No. 3 Mrs. C. E. Jagoe, drilling at 1,600 feet; Compton and others No. 1 G. M. Morrison, lot, location. Utica district: L. C. Young No. 1 Salem Davis, dry hole through Bethel sand, total depth 1,260 feet; The Petroleum Co. No. 1 Ed Hinton, spudding in. Oklahoma district: D. Boling and H. M. Moore No. 1 C. H. Hinton, dry hole through Bethel sand, total depth 955 feet; Walter Richards and others No. 1 J. W. Shiveley, dry hole through Jett sand, total depth 644 feet. Cane Run School district: Ellis & Ashby No. 6 Lawson Howard, shut down at 300 feet; W. E. Hupp and others No. 4 W. R. Jones, dry hole, no details.

Grayson County, Falls of Rough district: A. V. Smith and others No. 3 Crit Porter, dry hole through Bethel sand, total depth 416 feet; A. V. Smith and others No. 1 Robert Duggins, spudding in; A. V. Smith and others No. 1 E. G. Beauchamps, location.

Hancock County, Easton district: Chester Oil Co. No. 8 Bessie Fuqua, dry hole in Jett sand at 259-74 feet, total depth 278 feet. Patesville district: Roy Beard and others No. 1 C. A. Johnson, spudding in.

Henderson County, Birk City district: Kentucky Natural Gas Co. and Sun Oil Co. No. 1 Mrs. O. M. Duncan, spudding in; Kentucky Natural Gas Co. and Sun Oil Co. No. 1 J. T. Newman, moving in. Baskett district: H. H. Vickers and others No. 15 A. Banks, location abandoned. Niagara district: Imperial Oil & Gas Products Co. No. 1 F. Mauzey (O. W. Rash-Min.), initial production 50 bbls. naturally from Jett sand at 1,603-13 feet. This was to be a McClosky test. The company will start another well to the McClosky. Kentucky Natural Gas Co. No. 1 O. W. Overfield, spudding in. Cairo district: Phillips Petroleum Co. No. 1 F. P. Royster, drilling at 200 feet.

In McLean County, Island district, South Penn Oil Co. No. 6 H. K. and John Kirtley, drilling at 300 feet. Livermore district: J. C. Ellis No. 1 Laura Porter and others, estimated a 50-bbl. well in Barlow sand at 1,353-68 feet.

In Ohio County, Oklahoma district, Lang & Lewis No. 2 Clint Westerfield, estimated a 50-bbl. well in Jett sand at 638-48 feet; A. Teller, trustee, No. 6 Archie Dickens, drilling at 300 feet; Walter Richards and others No. 1, Little Zion Church lot, spudding; Ohio Oil Co. No. 10 C. Roach, Jett sand dry, going to the Barlow sand. Taffy district: Western Kentucky Petroleum Corp. No. 41 Mary Elmore, 10-bbl. well in Jett sand at 693-728 feet, total depth 731 feet. Livermore district: Ohio Oil Co. No. 2 Fannie Foley, spudding. Davidson Station district: Mecca Oil Co. No. 1 Pink Fentress, shut down at 900 feet. Adaburg district: Leeper Oil Co. No. 7 E. Ford, spudding. Fordsville district: Rex-Pyramid Oil Co. No. 1 W. P. Smith, dry hole through Jett sand.

Kansas Developments

By
DAL DALRYMPLE

Two Pools Opened and Three Extended in Western Areas

Results of exploratory work in Kansas fields were gratifying when, during the week, two pools were opened and half-mile extensions were made to three others. The most important of the wells was probably the Transwestern Oil Co. No. 1 Habiger C, SW SW NE Section 8-18-10w, new Arbuckle lime discovery 1 mile south of the Habiger and Stumps pools in Rice County. The well, a north offset to a Lansing lime producer, was carried on down to the Arbuckle where it potentialed 186 bbls. of oil and opened a pool. The lime was topped at 3,254 feet and penetrated to a total depth of 3,269 feet. To the north the Habiger pool stands out as one of Kansas' most prolific Kansas City lime pools, and sizable wells are to be found in the Arbuckle lime wells in the Stumps pool to the northeast. Undoubtedly action will be taken to extend southward the productive limits around the new producer, as well between it and pools to the north.

In Stafford County Republic Natural Gas Co. No. 1 Hart, NW SW SE Section 20-22-11w, a half mile northeast of the Richardson pool, was swabbing 3 bbls. of oil hourly from the Arbuckle lime topped at 3,619 feet and drilled to 3,629 feet. Further testing will probably increase production in the well and assure additional development between the pool proper and the extensioner.

Broadview Oil Co. No. 1 Livengood, SE SE NW Section 11-9s-16w, a half mile north of the Laton pool in Rooks County, was completed in the Lansing lime topped at 3,212 feet, with pay at 3,242 to 3,250 feet, total depth, for an estimated 50 bbls. of oil daily.

The Ainsworth pool in Barton County was assured a half-mile extension when Western Kansas Oil & Refining Co. and others No. 1 Reif, SW SW SE Section 35-16-13w, pumped 251 bbls. of oil on its initial test of the Arbuckle lime at 3,319 to 3,340 feet, total depth.

Kansas Potential Changes

Last Thursday the Conservation Division reported that Kansas' total oil potential registered its first decrease of the year this month, with 18,642 producing wells aggregating 3,580,829 bbls. daily in potential as of September 20. This was 22,424 bbls. a day under the August 20 peak when 18,590 producing oil wells were rated having a potential totaling 3,603,253 bbls. daily. The 4,594 prorated wells as of September 20 had a total potential of 3,531,291 bbls. and the 14,048 minimum wells as of the same date had a potential of 49,538 bbls., the latter producing 15 bbls. or less daily and therefore being free from proration.

The daily oil allowable for October was set at 163,400 bbls. compared to the September allowable of 165,500 bbls. The October figure is the same as that set by the Bureau of Mines.

Among the Wildcats

Pryor & Lockhart and others No. 1 Lietzke, NE SW NW Section 24-28-7, Butler County, is the only officially completed wildcat discovery well for the week. The well, located slightly over 1 mile southeast of the Brandt pool, found first oil at 2,753 feet in the Mississippi "chat" and at 2,770 feet, total depth, produced 12 bbls. of oil and 3 bbls. of water per day by bailing. It was plugged back to 2,767 feet and acidized with 2,000 gallons, where it responded with an estimated 50 bbls. of oil per day and no water.

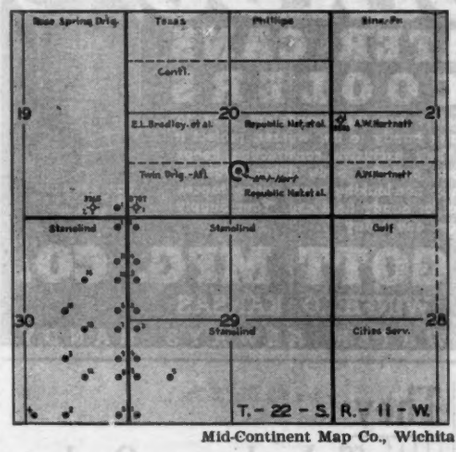
Wildcatters were busy during the past week with engineers staking new locations in virgin areas and a summary of these new wildcat operations is as follows:

C. L. Price and others No. 1 Polcyn, SW cor. Section 31-13-15w, Russell County, had rig up.

H. B. Garden No. 1 Strickler, 440 feet south and 440 feet east of NW cor. Section 17-22-6w, Reno County, was rigging rotary equipment.

Atlantic Refining Co. is deepening No. 1 Nunn, Mississippi lime discovery well in June, this year, from original depth of 4,658 feet, and the hole is now below 4,672 feet with no additional increase in production indicated, according to the latest reports. In June this well was credited with opening a new pool, establishing a potential of 604 bbls. of oil. Location is the C SE NE Section 27-21-34w, Finney County.

Central States and C. A. Blankinship No. 1 Crawford, NW SW NE Section 26-13-3w, Saline County, had cellar



Mid-Continent Map Co., Wichita

The Richardson pool in Stafford County gets an extension, and the well, while not a large producer, opens up acreage between it and the main pool

dug for a wildcat test on acreage originally held by the Carter Oil Co.

W. M. McKnab No. 1 Fritz, 480 feet north and 990 feet west of C Section 4-12-14, Shawnee County, has cellar dug for a proposed wildcat test in the Forest City basin, a major geological province in northeastern Kansas that has thus far undergone very little exploratory work. The new location is on an 8,000-acre block assembled on surface geology.

Stewart & Gross No. 1-A Semisch is being rigged up in the NW SE SW Section 34-27-7, Butler County.

Duwe & Farris and Atlantic Refining Co. No. 1 Parker, Graham County wildcat in C SE SW Section 29-6-23w, was dry and abandoned at 4,206 feet in Arbuckle limestone.

Rooks County

Broadview Oil Co. No. 1-A Livengood, SE SE NW Section 11-9-16w, in the Laton pool in Rooks County, established an estimated potential of 50 bbls. of oil from Lansing lime, with pay logged at 3,242 to 3,250 feet, total depth.

Pratt County

Champlin Refining Co. No. 1 Elliot, SW SW NE Section 26-27-14w, Pratt County wildcat test, recovered several feet of Arbuckle limestone cores that carried only sulfur odor and the test was abandoned at 4,857 feet, total depth.

Ellis County

Shell Petroleum Corp. No. 11 Rumsey, 1,002 feet north and 981 feet west of C Section 23-11-17w, Bemis pool in Ellis County, established a pumping potential of 3,238 bbls. of oil in Arbuckle lime and was completed at a total depth of 3,388 feet, in the lime.

Shell Petroleum Corp. staked location for No. 15 Rumsey in the NE SE NW of Section 23-11-17w.

Russell County

Phillips Petroleum Co. No. 4 Downing, NW SE SW Section 19-13-14w, Atherton pool in Russell County, was completed in Lansing lime, 2,930 to 2,961 feet, where it potentialed 263 bbls. of oil, accompanied by 15 per cent water. Total depth is 2,969 feet.

Texon Oil Co. No. 7 Letsch, 1,320 feet north and 897 feet west of SE cor. SW Section 26-14-13w, was rigging up rotary tools. Western Kansas Oil & Refining Co. No. 1 Schneider, NE NE NW Section 35-15-14w, building rig.

Estimated Daily Production

Estimated daily production for Kansas for the week ending October 1, and for the preceding week, was as follows:

	Barrels	
	Oct. 1	Sept. 24
Oxford City	1,200	1,175
Burrton	9,475	9,550
Ritz-Canton	4,450	4,225
Graber	3,025	3,100
Hollow-Nikkel	3,025	3,100
Lerado	975	1,050
Voshell	1,950	1,975
Wellington	2,600	2,650
Ellsworth County:		
Lorraine	2,025	2,325
Other pools	1,295	1,045
Rice-Barton counties:		
Bloomer	1,850	1,875
Chase	4,025	4,100
Geneseo	3,100	2,950
Raymond	1,000	775
Silica	10,975	12,300
South Silica	2,450	2,275
Keesling	575	850
Wherry	3,500	3,575
Miscellaneous Barton	6,515	5,785
Miscellaneous Rice	4,025	4,150
Russell County:		
Fairport	1,910	1,950
Gorham	1,710	1,510
Russell	1,395	1,080
Sullivan	4,670	4,390
Trapp	6,230	7,980
Miscellaneous Russell	6,850	5,605
Sedgwick County:		
Valley Center	955	930
Miscellaneous	2,850	3,000
Ellis County:		
Bemis	5,000	5,225
Miscellaneous	2,805	2,435
Kingman County	695	605
Stafford County	4,530	4,465
Greenwood County	9,800	9,125
Butler County	17,000	17,425
Other fields	24,940	26,570
Total Kansas	159,375	161,125

Ellsworth County

Phillips Petroleum Co. No. 1 Horejsi, SE SE NE Section 17-16-10w, pumped 160 bbls. of oil from Arbuckle lime 3,365 to 3,380 feet, total depth, and is completed. The lime had been acidized with 5,000 gallons. This producer is in the Stoltenberg pool in Ellsworth County.

Phillips Petroleum Co. No. 7 Patzner, SW NW NW Section 30-17s-10w, Bloomer pool on the Ellsworth County side, had Arbuckle lime at 3,308 feet and at 3,318 feet, total depth, was acidized with 1,500 gallons to establish a daily potential of 1,098 bbls. of oil and no water.

Barton County

Indian Territory Illuminating Oil Co. No. 1 Hoffman B, C S half S half NW Section 7-16-13w, South Trapp pool in Barton County, was acidized with 4,000 gallons in the Arbuckle lime at 3,332-48 feet, total depth, and is completed for a daily potential of 1,829 bbls. of oil.

Stanolind Oil & Gas Co. No. 16 Panning, C S half S half NE Section 2-20-11w, Silica pool, pumped 446 bbls. of oil the first four hours and 441 bbls. of oil the second four hours to rate a daily potential of 2,645 bbls. of oil. Potential was determined after applying 2,000

gallons of acid to the Arbuckle lime 3,273 to 3,284 feet, total depth.

Stanolind Oil & Gas Co. No. 5 Stueckeman, 990 feet north and 380 feet west of SE cor. Section 11-20-11w, Silica pool, topped Arbuckle at 3,270 feet and at 3,281 feet filled 1,800 feet with oil, swabbing 46 bbls. in three hours. It stands as a completed well after having made a potential of 1,668 bbls. of oil when 5.000 gallons of acid was applied to the lime.

Western Kansas Oil & Refining Co. and others No. 1 Reif, SW SW SE Section 35-16-13w, Ainsworth pool, set 5-inch casing at 3,319 feet, and at total depth of 3,340 feet, in Arbuckle lime, was acidized with 1,000 gallons and then 2,000 gallons to establish a potential of 251 bbls. of oil.

Shell Petroleum Corp. No. 4 Hoffman C, C W half E half SE Section 1-16-14w, Trapp pool, potential 1,981 bbls. of oil plus 8 per cent water and is completed, production coming from Arbuckle lime with total depth at 3,344 feet.

There were six new operations in Barton County: Stanolind Oil & Gas Co. No. 12 Panning, C N half N half SE Section 2-20-11w, location; same company's No. 6 Stueckeman, C N half N half SE Section 11-20-11w, location; Phillips Petroleum Co. No. 6 McClanahan, 825 feet south and 825 feet east of center Section 7-16-13w, building rotary rig; same company's No. 7 McClanahan, 825 feet north and 825 feet east of SW cor. SE Section 7-16-13w, location; Shell Petroleum Corp. No. 5 Stettinger, C W half W half SE Section 1-16-14w, rotary rig up; Stanolind Oil & Gas Co. No. 3 Redetzke, 440 feet north and 1,320 feet east of SW cor. SE Section 26-16-13w, location.

Rice County

Continental Oil Co. and others No. 3 Williams, NE SE NW Section 13-18-8w, Geneseo pool in Rice County, pumped 830 bbls. of oil in eight hours to make its potential 2,489 bbls., after acidizing the Arbuckle lime from 3,194 to 3,223 feet, total depth, with 3,000 gallons.

Transwestern Oil Co. and others No. 6 Moran A, NW cor. Section 4-18-10w, in the Stumps Arbuckle lime pool, is completed in the Arbuckle for 299 bbls. of oil after acidizing that horizon with 1,000 gallons and then 2,000 gallons. Total depth is 3,268 feet.

E. V. Holland No. 1-A Reese A, NW cor. Section 5-19-9w, was abandoned at 3,248 feet, in Arbuckle lime. At first this test appeared to be extending the Hafferman pool one-half mile north when it filled 800 feet with oil in 12 hours but developed a hole full of water upon being acidized.

Skiles No. 1 Campbell, SE SE NE Section 28-19-9w, Campbell pool, originally completed at 3,210 feet in Arbuckle lime for 252 bbls. of oil, has been deepened to 3,221 feet where it was recompleted with a new potential of 905 bbls. of oil.

Shell Petroleum Corp. No. 9 Zajic, NW SE NE Section 13-18-8w, Geneseo pool in Rice County, is a new operation and is shut down waiting for 10-inch casing to set at 250 feet.

Stafford County

Stanolind Oil & Gas Co. No. 3 Hayes, SE SW SE Section 11-24-11w, Zenith pool, topped Misener at 3,770 feet and at 3,777 feet, total depth, is completed for a daily potential of 2,019 bbls. of oil, flowing its production.

J. E. Crosbie, Inc., No. 2 Johnson, NW NW SW Section 13-24-11w, Zenith pool, shot the Misener sand with 12 quarts which responded with 994 bbls. of oil potentially. Total depth is 3,790 feet, in sand.

Jack Robertson and others No. 2 Community, 1,044 feet north and 384 feet west of SE cor. Section 14-24-11w, Zenith pool, established a flowing potential of 2,523 bbls. from the Misener sand with total depth at 3,805 feet.

Stanolind Oil & Gas Co. and others No. 4 Volker, NE cor. Section 23-24-11w, Zenith pool, had Misener sand at 3,800 feet where 7-inch casing was cemented. After drilling out cement plug and drilling to total depth of 3,818 feet, the well flowed 79 bbls. of oil in four hours to rate a daily potential of 603 bbls.

E. H. Moore, Inc., No. 4 O'Haver, SE SW SW Section 13-24-11w, Zenith pool, drilled to total depth of 3,810 feet, in Misener sand. After setting flow string and drilling cement plug, it flowed 156 bbls. of oil the first four hours and 291 bbls. of oil the second four hours to rate a potential of 938 bbls.

There were seven new operations in the Zenith pool: J. E. Crosbie, Inc., No. 4 Johnson, SE NW SW Section 13-24-11w, was rigging up rotary; Stanolind Oil & Gas Co. No. 1 O. Hartnett, SW SW NW Section 13-24-11w, location; Sinclair Prairie Oil Co. No. 4 Krey, SE SE NE Section 14-24-11w, cellar; same company's No. 5 Krey, NE NW NE Section 14-24-11w, location; Stanolind Oil & Gas Co. No. 4 M. Hartnett, C S half NW SE Section 23-24-11w, location; same company's No. 3 H. C. Paulson A, C S half NE SW Section 23-24-11w, location; Derby Oil Co. No. 3 McComb, NE NW NW Section 24-24-11w, rigging up rotary.

Eastern Kansas

Phillips Petroleum Co. No. 2 Newton, 254 feet north and 915 feet east of SW cor. NW Section 15-30-4, Rock pool in Cowley County, was completed after shooting with 60 quarts in Bartlesville sand 2,761-90 feet, which responded with 222 bbls. of oil on the pump. Total depth is 2,796 feet.

Phelps & Spencer No. 1-A (twin) Dunbar, NE NE SW Section 29-30-5, Cowley County, logged Kansas City lime at 2,236 feet and at 2,265 feet, total depth, pumped and flowed 109 bbls. of oil the first four hours and 114 bbls. of oil the second four hours to rate 658 bbls. of oil and 30 bbls. of water on its completed gauge.

Arthur Brewer No. 1 Lewis, NW SE NE Section 28-31-4, in the Hittle pool in Cowley County, pumped 136 bbls. of oil the first four hours and 99 bbls. the second four hours to establish a potential of 597 bbls. Production is from Arbuckle lime with total depth at 3,342 feet.

Cowley County new work during the week follows: J. A. Forrester No. 1 Yarnell, SE SE NE Section 1-30-7, in the Mahannah pool, is drilling at 655 feet; W. M. McKnab and B. B. Blair No. 1 Hittle, SW SE NE Section 21-31-4, Hittle pool, has been deepened from old depth of 3,284 feet to 3,288 feet to establish a new potential of 1,643 bbls. of oil.

In Butler County I. S. Dustin No. 1-A Maxwell, NW SW SW Section 31-24-4, Potwin pool, was completed in Mississippi lime at total depth of 2,694 feet for an estimated 25 bbls. of oil daily, showing some water.

Rex-Morris No. 1 Farner, NE SW NW Section 8-28-7,

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Butler County, was shot with 120 quarts in the Bartlesville sand, where it produced 40 bbls. of oil in 24 hours on the pump. Total depth is 2,672 feet. Isadore Molk made a location for No. 1 Yingling, 860 feet north and 330 feet east of the SW cor. SE Section 29-26-6.

In Greenwood County, Aikman & Braden No. 1-A Taylor, NE NE NW Section 15-24-12, Hamilton pool,

(Continued on Page 97)

Southwest Texas Fields

(Continued from Page 73)

6-A Rios, 2,180 feet, 71 bbls. oil, 15 bbls. water, pumping. Taylor Refining Co. No. 2-B Brown, 2,169 feet, 20 bbls. oil, 200 bbls. water, pumping. Salt Flat field: J. C. Bertrand No. 2 Hanson, 2,710 feet, 40 bbls. oil, 120 bbls. water, pumping. Martel Petroleum Co. No. 2 Gray, 2,638 feet, abandoned. Martel Petroleum Co. No. 3 Smith, 2,627 feet, abandoned.

Duval County

Benavides field: Frank Gravis No. 5-B Puid, 4,810 feet, 90 bbls., 7/64-inch choke. Casa Blanca field: Magnolia Petroleum Co. No. 10 Duval County Ranch Co., sand 1,183-91 feet, 20 bbls., three-eighths inch choke. Driscoll field: Continental Oil Co. No. 26-A Driscoll, sand 3,346-60 feet, 254 bbls., quarter-inch choke. Eagle Hill field: Al Buchanan No. 4-B Foster, 1,523 feet, 100 bbls., pumping. Al Buchanan No. 6 Foster, sand 1,510-21 feet, 100 bbls., pumping. Magnolia Petroleum Co. No. 7 Duval County Ranch Co., sand 1,491-97 feet, 35 bbls. oil, 35 bbls. water., pumping. V. G. Schimmel No. 4 Foster, sand 1,517-29 feet, 70 bbls., pumping. Fitzsimmons field: Porter Drilling Co. No. 4-A Fitzsimmons, perforated casing 4,330-34 feet, 156 bbls., 5/32-inch choke. Sun Oil Co. No. 2 Brueggeman, perforated casing 4,276-87 feet, 107 bbls., 9/64-inch choke. Hoffman field: Continental Oil Co. No. 1 Collings, 2,810 feet, 71 bbls., pumping. Cox & Hamon and others No. 41 Cuellar Brothers, sand 2,809-24 feet, 12 bbls. per hour, jetting. Cox & Hamon and others No. 45 Cuellar Brothers, sand 2,795-2,811 feet, 100 bbls., jetting. Darby Petroleum Co. No. 1 Henitze, sand 2,651-76 feet, 8 bbls. per hour, jetting, half-inch choke. Magnolia Petroleum Co. No. 13 Well, sand 2,795-2,812 feet; 75 bbls., jetting. W. A. Wagner No. 1 Lampe, sand 2,802-07 feet, 35 bbls., pumping. North Kohler No. 2 Peters, sand 1,846-47½ feet, 75 bbls., jetting. Seven Sisters field: Gulf Stream, Inc., No. 6-A Garza, 2,674 feet, abandoned.

Hidalgo County

Samfordyce field: Fohs Oil Co. No. 1-B Guerra, perforated casing 2,856-64 feet, 6 bbls. per hour, half-inch choke. Groboski & Morton No. 2-B Guerra, sand 2,859-66 feet, 150 bbls., quarter-inch choke. Weekly Oil Co. No. 7 Lula George, sand 2,843-56 feet, 100 bbls., jetting.

Jim Wells County

South Alice field: Gulf Board Oil Corp. and Mills-Bennett Production Co. No. 1 Forry, 5,559 feet, abandoned. Southwood Oil Corp. No. 1 Stillwell, perforated casing 5,273-83 feet, 129 bbls., eighth-inch choke.

McMullen County

Munson field: Bishop Oil Co. No. 2-A Nueces Land & Livestock Co., sand 1,205-13 feet, 55 bbls., pumping; No. 1-B Nueces Land & Livestock Co., sand 1,196-1,206 feet, 75 bbls., pumping. Calliham field: Marion Production Co. No. 5 Lark, sand 1,047-53 feet, 15 bbls., pumping.

Victoria County

Heyser field: Seaport Oil Co. No. 5 Diemer, perforated casing 5,485-92 feet, 175 bbls., eighth-inch choke.

Nueces County

Flour Bluff field: Sinclair Prairie Oil Co. No. 4 State, perforated casing 6,654-64 feet, 194 bbls., eighth-inch choke. Luby field: Sun Oil Co. No. 3 McCann, perforated casing 5,055-62 feet, 104 bbls., three-sixteenths inch choke. Clara Driscoll field: Texas Co. No. 2 Flinn, perforated casing 5,098-5,107 feet, 107 bbls., eighth-inch choke. Saxet field: Maryland Corp. and Renwar Corp. No. 8 Morgan, perforated casing 4,554-57 feet, 164 bbls., three-sixteenths inch choke. Simmons & Webb No. 3 Harrell, perforated casing 4,718-22 feet, 100 bbls., eighth-inch choke. Western Gulf Petroleum Co. No. 1 Hunter, 4,901 feet, 35 bbls., jetting. West Saxet field: Western Gulf Petroleum Co. No. 4 Priour, 6,950 feet, 60 bbls., 5/32-inch choke. West Saxet field: C. Andrade No. 3 Dunn, 7,010 feet, abandoned. Carlos Oil Corp. No. 1 Smith, perforated casing 4,070-75 feet, 225 bbls., 5/32-inch choke.

Webb County

O'Hern field: Hamill & Smith No. 10-A Benavides, sand 2,891-2,903 feet, 119 bbls., three-eighths inch choke.

Zapata County

Escobas field: Dulup Oil Co. No. 37 Trevino, 1,341 feet, 122 bbls., pumping. Texas Co. No. 120 Measles, sand 1,285-93 feet, 10 bbls., pumping. Mirando Valley field: Kirkwood & Morgan No. 2 Hinnant, 1,881[illegible] feet, 115 bbls., pumping.

Refugio County

Tomoconnor field: Copano Oil Co. No. 13-B O'Connor, 5,922 feet, 530 bbls., quarter-inch choke. Quintana Petroleum Co. No. 5 Heard, 5,927 feet, 650 bbls., quarter-inch choke; No. 8 Reilly, 5,925 feet, 1,203 bbls. per day, three-eighths inch choke.

Gulf Coast Fields

(Continued from Page 89)

W. F. Beers, 6,077 feet, 456 bbls., one-quarter inch choke. Stanolind Oil & Gas Co. No. 9-C Moore, sand 5,565-6,080 feet, 628 bbls., one-quarter inch choke. Stanolind Oil & Gas Co. No. 2 McDonald, sand 5,991-6,080 feet, 387 bbls., one-quarter inch choke. Stanolind Oil & Gas Co. No. 7 Remley, sand 5,793-6,080 feet, 567 bbls., one-quarter inch choke. Stanolind Oil & Gas Co. No. 23 Steve Paul, sand 5,565-5,834 feet, 635 bbls., one-quarter inch choke. Manvel field: Texas Co. No. 33 Houston Oil Field Association, 5,675 feet, 503 bbls., one-quarter inch choke. Sandy Point field: Stanolind Oil & Gas Co. No. 4 J. A. Fite, sand 6,490-6,493 feet, 394 bbls., one-quarter inch choke.

Chambers County

Anahuac field: Humble Oil & Refining Co. No. 32 Middleton, 7,080 feet, 240 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 20 Gripon, sand 7,118-25 feet, 556 bbls., one-quarter inch choke. Cotton Lake field: J. R. Turnbull No. 1 Jula H. Casey, perforated casing 6,460-92 feet, 256 bbls., one-quarter inch choke.

Fort Bend County

Boling field: Atlantic Refining Co. No. 1 Hogg Estate, 3,528 feet, abandoned. Blue Ridge field: W. H. Telshaw No. 1 Blakely, 3,026 feet, abandoned.

Galveston County

Dickinson field: Humble Oil & Refining Co. No. 1 Leith, 8,714 feet, 720 bbls., one-quarter inch choke. Pure Oil Co. No. 2 Maco Stewart, 8,197 feet, 769 bbls., one-quarter choke.

Harris County

Eureka field: Means & McGehee No. 1-D Lackner, sand 7,692-7,729 feet, 468 bbls., one-quarter inch choke. Fairbanks field: Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Adell, perforated casing 6,843-48 feet, 621 bbls., one-quarter inch choke. Gem Oil Co. No. 6 B. W. Reid, 6,855 feet, 660 bbls., one-quarter inch choke. Friendswood field: Humble Oil & Refining Co. No. 23 Beamer, sand 5,643-6,047 feet, 600 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 4 Whitcomb, sand 5,942-6,046 feet, 600 bbls., one-quarter inch choke. Tomball field: Humble Oil & Refining Co. No. 3 Martens, sand 5,559-68 feet, 514 bbls., one-quarter inch choke. Humble Oil & Refining Co. No. 1 Beck, 5,569 feet, 25 bbls. per hour, one-quarter inch choke. Humble Oil & Refining Co. No. 4 Holderreith, 5,555 feet, 456 bbls., one-quarter inch choke

Jackson County

Cordelle field: H. J. Porter No. 4 Pressly, perforated casing 2,637-43 feet, 1,500,000 feet of gas, one-quarter inch choke.

Liberty County

Hardin field: Commerce Oil Co. No. 1 Roberts, sand 7,556-7,605 feet, 434 bbls., one-quarter inch choke.

Polk County

Segno field: Gulf Oil Corp. No. 3 A. Ragan, perforated casing 8,132-37 feet, 453 bbls., one-quarter inch choke.

Tyler County

Spurger field: Republic Production Co. No. 12 Hurd fee, sand 7,657-90 feet, 617 bbls., one-quarter inch choke.

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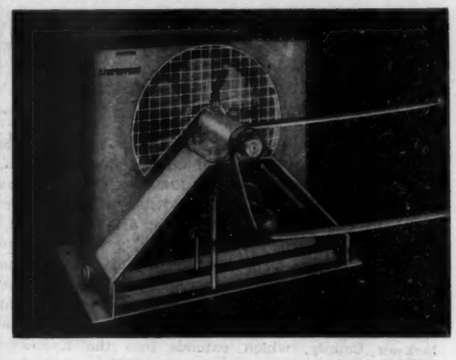

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Eastern Field Report

By STAFF CORRESPONDENT

Elk-Poca Largest Gas Field in the Eastern United States

PITTSBURGH, Pa., Oct. 3. — An important test is now being drilled in Jackson County, West Virginia, in an attempt to extend the Elk-Poca Oriskany gas field in Kanawha County. In the Ripley district, Everett Starcher and others have a test drilling below 2,000 feet on the Story Boggess farm, 2 miles a little west of due north from the Oriskany gas well on the E. F. Cunningham farm in the same district. The Cunningham well was a north extension of the field and is about 1 mile north of the southern apex of Jackson County, which extends into the Kanawha County field, and was completed testing 5,000,000 feet a day from a total depth of 4,941 feet, with the Oriskany sand topped at 4,928 feet.

The Elk-Poca field in Kanawha County is the greatest gas field in the East with several hundred wells completed and an extremely low number of dry holes. The wells range in volume up to 25,000,000 feet a day, with a rock pressure in some cases exceeding 2,000 pounds. At present, over 30 operations are active in the field and new locations are announced weekly.

The best oil well of the week was the test of Joe Rubin and others on the Lloyd Bailey farm in Section 10, Jackson Township, Knox County, Ohio, which was drilled into the Clinton sand at 3,160-3,210 feet, total depth 3,225 feet, and produced 50 bbls. the first day after shot.

In Section 4, Hanover Township, Licking County, North Fork Oil Co. completed No. 13 Williams in the Berea sand at 631 feet, a 2-bbl. pumper. In Section 8, Mary Ann Township, William Stricker and others drilled a test on the E. H. Davis farm through the Berea sand to 587 feet and it was dry.

SOUTHWEST PENNSYLVANIA

Two operations were completed in Southwest Pennsylvania during the week. In Fayette County, Nollem Oil & Gas Co. completed a well on the Cora B. Alton farm in Menalien Township in Squaw sand at 1,500 feet. Big Injun was at 1,239-1,393 feet and showed only 52,000 feet of gas. It was an offset to the large gas well on the Rick farm and was about 900 feet northeast of it. In this township, Eberly and others are drilling on the J. F. Combs farm and have reached 700 feet.

In Washington County, the test of the Naomi Oil & Gas Co. on the James M. Williams farm in Fallowfield Township was drilled to 2,862 feet and was dry. The Fifth sand lay at 2,631-47 feet.

In Nottingham Township, Washington County. Beedle, Clark and others were drilling at 800 feet on the Pittsburgh Coal lease, with the Murphy sand at 460-515 feet and 50,000 feet of gas at 465 feet.

In North Strabane Township, E. H. Tague was drilling at 710 feet on the Edward Lutton farm to replace No. 2 Lutton lost by ground settling. It had been producing 8 bbls. a day. In Nottingham Township, the Sugar Run Oil & Gas Co. is deepening No. 1 Ivan Williams commencing at 2,266 feet.

In Buffalo Township, Washington County, R. M. Duden and others have reached 1,525 feet on the Antonius Provenzano farm. In Hanover Township, Breaden and Herron are down 1,050 feet in the No. 3 W. N. Bell.

Greene County

In Center Township, Greene County, J. B. Orndoff is building a rig for No. 3 J. E. Scott. The Carnegie Natural Gas Co. is grading a road to the location for No. 4 J. H. Orndoff. In Washington Township, the Equitable Gas Co. is drilling at 2,895 feet with 62,000 feet of gas coming from the Fifty Foot sand.

In Richhill Township, W. L. Walters is drilling at 2,210 feet in the Ellsworth Burnsfield test, with Big Injun sand at 1,769-2,045 feet and 60,000 feet of gas at 1,777-1,882 feet. Smith McCracken has sawed the casing in two and pulling it from 3,190 feet in the Asa Hughes test.

In Monongahela Township, the Monongahela Oil & Gas Co. has a rig on the George B. Vance heirs farm. In Morris Township, R. E. Hoskinson and others have reached 2,200 feet in the H. W. Ealy-C. C. Conklin farm.

In Richhill Township, D. G. Braddock is rigging up to deepen the No. 6 Newton Braddock, starting at 2,344 feet. In Greene Township, H. D. Freeland is still cleaning out to deepen the No. 1 I. T. Moser.

Deep Tests

In Beaver County, John T. Galey and others recovered the tools lost in Onondaga lime horizon on the Eliza Allen heirs farm in South Beaver Township, and resumed drilling and had reached 4,660 feet. It is expected that casing will be run this week.

On Chestnut Ridge, Wasson & Co. recovered the fishing tools in the test on the J. H. Sorg farm in North Union Township, Fayette County, and have also recovered about 2,600 feet of cable from the drilling tools which were lost at 6,223 feet. The fishing tools have taken a hold on the remainder of the lost line and have moved the lost tools up the hole.

In South Union Township, on this ridge, the Peoples Natural Gas Co. reached 1,035 feet in the rotary test on the Piedmont Coal Co. lease and ran 10-inch casing to 680 feet. South of this, New Penn Development Co., William E. Snee and others reached 925 feet on the Indian Creek Coal Co. William Johnson warrant. As this is being drilled with standard tools casing will probably be set at 1,100 feet.

In Springhill Township, Fayette County, on this structure, the L. J. Houze Convex Glass Co. was drilling at 7,100 feet on the Paul Dunham farm, with no change in the formation.

WEST VIRGINIA

One oil well was completed in West Virginia during the week. In Harper district, Roane County, American Oil & Development Co. completed No. 9 G. M. Karickhoff in Salt sand at 1,635 feet and it is showing for 10 bbls. a day.

Gas Wells

In Boone County, Rich Fork Oil & Gas Co. deepened No. 9 Croft Land Co. in Scott district from 2,624 feet to 4,122 feet. Brown shale was at 3,695-4,110 feet with 100,000 feet of gas at 2,955-3,892 feet. In Washington County, the Burns Gas Co. (formerly O. B. Cunningham and others) deepened No. 1 J. T. Ferrell from 1,489 feet through the Berea and it was dry. The Big Injun was at 1,485-1,536 feet; Berea at 1,988-2,012 feet.

In Cabell County, the Kentucky-West Virginia Gas Co. deepened No. 1 Julia McComas, in McComas district, from 1,600 feet to 3,637 feet. Brown shale lay at 3,540-3,637 feet with 410,000 feet of gas at 3,350-55 feet.

In Calhoun County, Hope Natural Gas Co. completed three wells. In Lee district, No. 7819, G. W. Hardman land, was completed at 1,678 feet, with the third Salt sand at 1,582 feet and 1,425,000 feet of gas at intervals from 1,606 to 1,676 feet. It was not shot. On the Allen Hardman farm in this district, No. 7816 was completed at 1,577 feet in Salt sand with a gauge of 425,000 feet a day before a shot. In Center district, No. 7814 on the Evelyn Kenny farm was completed at 2,222 feet with Big Injun 2,122-72 feet and 325,000 feet of gas a day before the shot at 2,128-63 feet.

In Sherman district, Calhoun County, Kansas-West Virginia Oil & Gas Co. completed No. 3 S. H. Wilson at 1,903 feet, Injun sand, and it has a volume of 95,000 feet a day along with some oil.

In Gilmer County, L. E. and W. H. Mossor test on the H. S. Riddle farm in DeKalb district, completed in the Big Injun sand at 1,915 feet, is a gas well gauging 1,000,000 feet a day.

In Lewis County, McCall Drilling Co. on the Danley J. Davis farm in Freemans Creek district, had Injun sand at total depth of 1,667 feet, and a gas well gauging 94,600 feet a day.

In Pleasants County, Cooper Oil Co. drilled a dry hole on the Ambler Smith farm in Washington district through Salt sand to 1,200 feet.

In Wayne County, R. J. Petrie completed a 325,000-foot gas well on the Lillie Gibson Tooley farm in Ceredo district at 3,041 feet.

In Stonewall district, Wayne County, United Fuel Gas Co. completed No. 4809, Andrew Fry farm, at 1,528 feet. It gauged 68,000 feet from the Big lime and 140,000 feet from the Berea sand.

In Wetzel County, Wasmuth and Burgess completed a gasser on the Wilford Garner lease in Proctor district, in the Cow Run sand at 550 feet, and gauged 500,000 feet a day.

Oriskany Gas Field

Three wells were completed in the Oriskany sand in Kanawha County, West Virginia. In Poca district, the Mullins Gas Co. completed a well on the W. H. Odell farm at 4,930 feet with the Oriskany topped at 4,901 feet and final gauge, without shot, 12,000,000 feet a day. In this district, United Fuel Gas Co. completed No. 4800 on the W. H. Odell and others lease with a total depth of 5,099 feet and a final gauge of 10,817,000 feet a day.

Columbian Carbon Co. test on the L. P. Rollins farm in Poca district, was completed at 5,159 feet, with Oriskany sand topped at 5,129 feet, and a final gauge of 5,116,000 feet a day.

In this district, the Meigs Development Co. made a location on the Lola and Homer Fields farm, elevation 712 feet, and also on the E. P. Higginbotham farm, elevation 725 feet. In Elk district, Valley Gas Co. made a location on the G. W. Harlew farm, elevation 701.6 feet. In Poca district, South Penn Oil Co. made a location on the J. E. Monk farm, 1 mile north and west of its gas well on the Virginia E. Monk farm.

In Poca district, the United Fuel Gas Co. topped Corniferous lime at 4,929 feet on the T. F. Good and others lease and set casing at 4,944 feet. This company reached that formation at 4,924 feet in the Floto Johnson test and in the J. W. Harding and others test at 4,768 feet, and is drilling at 5,037 feet on the O. V. Milam farm; at 3,404 feet in the Odell and Glass test; at 3,157 feet on the Milam and Odell land; and 1,779 feet on the Joseph W. Legg lease; at 1,020 feet in the J. H. Bungardner test; started drilling on the S. E. Gibson land; has rig standing on the B. B. Milam farm; is rigging up No. 4796 W. J. Glass, and has material in for the Nancy Carney and others test.

The Mullins Gas Co. is down 4,400 feet in the Manfred Fisher and others test, and at 4,300 feet in the Earl K. Johnson test. Spartan Gas Co. is drilling at 2,110 feet in the Loca and A. E. Fisher test; Poca Fork Oil & Gas Co. at 5,075 feet in the Levi Combs test; Lima Gas Co. at 4,100 feet on the A. T. Mairs heirs land; Hays Oil & Gas Co. at 1,540 feet in the F. M. Ray test, and at 2,100 feet in the H. C. Painter test. United Carbon Co. is building a rig for the J. H. Burdette test, and is drilling at 755 feet in the William Moss and others test, and at 1,875 feet in the J. H. Prillerman test. The Columbian Carbon Co. is drilling at 4,107 feet in the W. H. Odell and others test; and at 1,942 feet in the W. H. Miller and others test.

In Elk district, this company is drilling at 4,824 feet in the W. B. Fogarty test; at 3,670 feet in the

(Continued on Page 96)

North and East Texas

By D. H. STORMONT

Extensions of K. M. A. South and West; New Archer Tests

WICHITA FALLS, Tex., Oct. 3.—A south extension to the K.M.A. pool into Archer County, the completion of another test in the shallow Canyon sand pool in Wichita County and the staking of three new locations in Archer County headed the developments in North Texas over the past week.

C. H. Staley No. 6 Mangold, Block 30, P. Castleman Survey, Abstract 35, just across the line in Archer County, topped K.M.A. pay at 3,776 feet and drilled to a total depth of 3,840 feet. Operator set 7-inch casing at 3,776 feet.

The 4-mile west extension of the K.M.A. pool into Wilbarger County, Consolidated Oil Co. No. 1 Ancell, Section 35, Block 6, H.&T.C. Survey, is shut in for the erection of storage for Railroad Commission gauge. Production is estimated at 200 bbls. per day.

In the Canyon sand pool in the southern part of the county, King Oil Co. No. 2 Perkins-Collum, Section 20, east extension to the pool, was rigging up spudder to clean out the well after it started flowing by heads while plug was being drilled at 2,631 feet. The test is estimated to be good for 250 bbls. of oil per day. A new location was given the area when King Oil Co. started moving in materials for No. 2 Harman Rathke, southwest offset to No. 1 Rathke, in Section 20, Block 4, Denton C.S.L. Survey.

Archer County

A location for a test to be drilled to the 3,800-foot pay of the Hull-Silk pool and two new wildcat locations headed the developments in Archer County. In the Hull-Silk pool, Thurman & Lipscomb staked their No. 2 L. F. Wilson in the E. Hall Survey, an east offset to their No. 1 Wilson, which extended the pool 1 mile to the north several months ago.

George Proctor and associates were moving in machinery for No. 1 Langsford Investment Co., John W. Harris subdivision of the Club ranch about 3 miles northwest of Archer City. The wildcat is contracted to go to 3,000 feet.

In the southeastern part of the county, just north of the Young County line, Fresno Oil Co., Panhandle Refining Co., and Rancho Oil Co. have staked No. 2 Prideaux, in the A. Rohns Survey. Contract depth is 3,500 feet and the test is approximately 500 feet from the same operators' No. 1 Prideaux, which was abandoned after uncovering a good show of oil in the Caddo. Operators were unable to get a water shut off and were forced to abandon.

Wilbarger County

A new deep wildcat to seek Strawn production, was given Wilbarger County when C. E. Prince made location for No. 1 Mrs. G. E. Blackman, Section 28, Block 4, H.&T.C. Survey. It will be a 4,500-foot rotary test, northeast of Lake Kemp.

Cooke County

In the Walnut Bend area of Cooke County, where Sinclair Prairie Oil Co. completed a 2,000-bbl. discovery well several months ago, the same company has halted further drilling in its second test at 6,055 feet in the Ellenburger where sulfur water was found. Reported plans are to plug back for a test of showings around 5,650 feet. The discovery well was completed at a depth of 4,900 feet, but the second test missed this section.

NORTH TEXAS COMPLETIONS

Archer County

N. Anagnos No. 13 J. S. Bridwell, 902-50 feet, 120 bbls. Gem Oil Co. No. 3 W. P. Ferguson, 3,810-67 feet, 1,032 bbls. Panhandle Refining Co. No. 1 H. O. Prideaux, 4,755 feet, dry. H. A. Schaeffer Oil Co. No. 4 W. P. Ferguson, 3,790-3,870 feet, 600 bbls. Shappell Oil Co. No. 13 Bell, 1,017-29 feet, 130 bbls. Underwood and others No. 30 R. Campbell B, 1,183 feet, dry.

Clay County

G. A. Hibbs No. 1 J. W. Etheridge, 305 feet, dry. Joellen Oil Co. No. 3 State of Texas, 1,085-1,119 feet, 90 bbls.; No. 4 State of Texas, 1,095-1,117 feet, 105 bbls. Metzner & Burns No. 11 L. Thornberry A, 350 feet, dry.

Cooke County

Mudge Oil Co. No. 6 G. C. Clayton, 1,002-1,100 feet, 3 bbls. W. O. Russell No. 1 J. W. Sherrill, 2,259 feet, dry. Texas Co. No. 4 F. J. Truebenbach A, 896-936 feet, 26 bbls.; No. 11 Tony Truebenbach, 789-816 feet, 77 bbls. Trumter Oil Co. No. 9 Mrs. C. E. Stacey, 724-40 feet, 45 bbls.

Jack County

Benoil Co. No. 2 J. S. Rhodes C, abandoned location. A. Cohen No. 4 First State Bank Bryson, 2,353-66 feet, 125 bbls. Hunter and others No. 5 M. Covington, 390-95 feet, 5 bbls. Martex Oil Co. No. 1 A. B. Kuykendall D, 3,072-3,218 feet, 347 bbls. Rowen and others No. 1 S. E. Rankin, abandoned location; No. 2 S. E. Rankin, abandoned location. J. Sewell No. 3 D. R. Sewell, 334 feet, dry. Sullivan Oil Co. No. 5 Swasey, 368-81 feet, 10 bbls.

Wichita County

Bridwell Oil Co. No. 3 Mrs. Anna Mangold, 3,579-3,835 feet, 960 bbls. Perry Browning No. 2 G. W. Lewis, 3,730-3,826 feet, 640 bbls. L. T. Burns No. 24 First National Co., abandoned location. Continental Oil Co. and Petroleum Production Co. No. 1 State Insane Asylum, 5,075-5,405 feet, 136 bbls. Continental Oil Co. No. 2-B Sue Mitchell, 3,812-69 feet, 704 bbls.; No. 2-B Waggoner Brothers, 3,800-3,900 feet, 520 bbls.; No. 2-B Waggoner Brothers A, 3,736-3,774 feet, 664 bbls. Grace & Wood No. 1 Waggoner, 3,905 feet, dry. Haberle & Thornton No. 1-C First National Co. A, 500 feet, dry. Hanlon-Buchanan, Inc., No. 3 Fassett & Tuttle B, 3,910-4,030 feet, 1,296 bbls. Hoppes & Newell No. 6 Seay, abandoned location.

Humble Oil & Refining Co. No. 3 L. S. Pace, 3,737-3,878 feet, 440 bbls. E. W. Jones, Inc., No. 3 W. L. Hodges, 3,824-3,903 feet, 216 bbls. Lewis Nos. 7 and 8 Mangold, abandoned locations. Charles H. McDonald No. 1 Sue Mitchell, abandoned location. W. B. Omohundro Nos. 8 and 9 W. L. Hodges, abandoned locations; No. 28 J. R. Pace, 3,684-3,837 feet, 800 bbls.; No. 3-D Pace B, abandoned location. D. W. Power and others No. 8-A D. E. Hooks, 134 feet, dry. Shell Petroleum Corp. No. 1 H. C. Griffin, junked, 3,765 feet. Venmex Oil Co. No. 1-A State of Texas, 3,690-3,800 feet, 1,920 bbls. Worth Oil Co. No. 2 W. J. Logan, abandoned location.

Wilbarger County

Phillips Petroleum Co. No. 207 Waggoner, 3,050-70 feet, 640 bbls.

Young County

Cable Oil Co. No. 42 L. A. Snider, 588-95 feet, 9 bbls. Pemeta Oil Co. No. 10 Y. Swain, 703-11 feet, 10 bbls. West & Honea No. 2 Elise Turner, 881 feet, dry. Homestead Oil Co. No. 1 Stephens, 3,728-58 feet, 50 bbls.

EASTERN TEXAS

DALLAS, Tex., Oct. 3.—Eastern Texas development over the past week was mostly centered in wildcat completions and new locations throughout East Central Texas.

In Navarro County, two shallow Corsicana sand tests were completed, one a small producer and the other as a dry hole. Sitton-Ivey completed No. 2 Marshall for 2 bbls. per day from sand at 610-53 feet. Touhy & Darnes No. 1 G. H. Love was dry and abandoned at a total depth of 975 feet.

In the Navarro Crossing pool of Houston County, Humble Oil & Refining Co. completed No. 1 J. A. Hill, in the J. L. Riviere Survey, for 2,930,000 feet of gas at 5,954-78 feet. Sun Oil Co. completed No. 1 R. S. and H. H. Dailey for 4 bbls. of oil per day at 5,881-93 feet.

In Trinity County, C. D. Davis staked No. 1 J. D. Gibson in the A. Donavan Survey, 4 miles northeast of Trinity, and Leon Gay staked No. 1 J. B. Gibson in the W. M. Beardsly Survey, 1 mile south of Trinity.

Smith County was given a new location, J. H. Thomason No. 1 J. W. Bartlett, R. G. Stewart Survey, 1½ miles southeast of Jamestown. Operators are rigging up.

EAST TEXAS FIELD COMPLETIONS

(One-hour production)

Gregg County—Longview Area

Cities Service Oils No. 29 T. W. Lee, 3,535-3,606 feet, 60 bbls. Fidelity No. 3 J. W. Aiken, 3,518-28 feet, 60 bbls. Humble Oil & Refining Co. No. 38 W. W. Holland, 3,548-3,625 feet, 71 bbls.; No. 39 W. W. Holland, 3,607-79 feet, 57 bbls. Joe Long Drilling Co. No. 31-A W. W. Owens, 3,506-70 feet, 70 bbls. Shell Petroleum Corp. No. 40 J. Moore, 3,530-3,631 feet, 52 bbls. Stanolind Oil & Gas Co. No. 16 V. Calvin, 3,567-3,633 feet, 42 bbls.; No. 16-A Whatley, 3,491-3,551 feet, 60 bbls.

Gregg County—Kilgore Area

Angus Wynne No. 1 Wynne, 3,485-94 feet, 60 bbls. Nathan Pipe Supply No. 4 A. W. Miller, 3,596-97 feet, 20 bbls. Gulf Oil Corp. No. 32 A. Muckleroy, 3,534-43 feet, 67 bbls. Roger Lacey No. 8-B fee, 3,545-58 feet, 60 bbls. Shell Petroleum Corp. No. 24 Willoughby, 3,534-3,607 feet, 14 bbls.; No. 25 Willoughby, 3,536-3,621 feet, 62 bbls.

Rusk County—Kilgore Area

Gulf Oil Corp. No. 23 W. F. Florence, 3,657-59 feet, 40 bbls. Jones & Jones No. 4 M. Brack, 3,632-36 feet, 60 bbls. Sun Oil Co. No. 29 J. R. Beall, 3,580-85 feet, 55 bbls.

Rusk County—Joiner Area

Humble Oil & Refining Co. No. 12 M. Wooster, 3,718-34 feet, 40 bbls. Hunt Oil Co. No. 20-C C. D. Ashby, 3,554-3,614 feet, 7 bbls. Ohio Oil Co. No. 51 S. H. Moores, 3,619-80 feet, 34 bbls. Ohio Oil Co. No. 53 S. H. Moores, 3,656-3,725 feet, 34 bbls. Art No. 2 L. Tolliver, 3,648-68 feet, 50 bbls.

Upshur County

W. W. Bradley No. 10 C. Smith, 3,645-47 feet, 40 bbls. General American No. 19-B A. J. Sanders, 3,661-65 feet, 40 bbls.; No. 5-C O. M. Victory, 3,610-12 feet, 36 bbls. J. D. Reynolds No. 7 L. B. Miller, 3,779-83 feet, 7 bbls.

EAST CENTRAL TEXAS COMPLETIONS

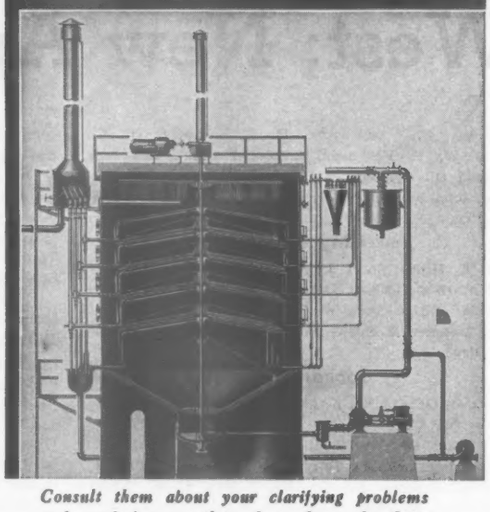
(24-hour production)

Anderson County

In the Long Lake field, F.H.E. Oil Co. No. 2 F. Pessoney, 5,335-40 feet, 68 bbls. In the Cayuga field,

AMAZING RESULTS with the ★ SEIP CLARIFIER

★ CLEARER LIQUID
★ SHORTER SETTLING TIME
★ MAXIMUM RESIDUE CONCENTRATION
★ GREATER CAPACITY



The Seip Clarifier is modern—based on the principle of Upward Filtration, which is at least 14 times as effective as downward filtering.

In old-style settlers, liquid enters through a center downtake, but the Seip intake is located around the tank's periphery, thus providing ten times the intake capacity. This slows down the flow of liquid considerably and minimizes agitation to liquid.

The Seip is made in any desired size. Although furnished complete with leak-proof, welded steel tank, the clarifier mechanism can in many instances be installed in present settling tanks, and will greatly improve capacity and efficiency.

Made by the Graver Organization, who for three-quarters of a century have been leaders in the manufacture of leak-proof metal tanks for storing and transporting oil, breather roofs, refinery installations, field equipment, service station equipment, spherical tanks, water treating equipment, etc.

Consult them about your clarifying problems and send for complete data about the Seip.

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C-F DIFFERENTIAL DASH POTS

CF

Special Dash Pots for Shipment to India

THE 46 dash pots or sensitizers here shown were specially made for a user in India whose requirements necessitate great exactness in maintaining a constant differential between the gas and air pressures to the burners. They will be used in connection with Fulton low-pressure regulators.

Chaplin-Fulton equipment is designed for all purposes of gas control.

The CHAPLIN -FULTON MANUFACTURING CO.
28-40 PENN AVE. PITTSBURGH, PA.

Phil Top Oil Co. No. 2 G. W. Ware, 4,078-92 feet, 114 bbls.

Angelina County

J. C. Bonham No. 7 Cameron Lumber Co., dry and abandoned.

Grayson County

Mildred Oil Co. No. 1 Neatherly, 3,868-4,023 feet, 259 bbls.

Houston County

In the Navarro Crossing field, Humble Oil & Refining Co. No. 1 J. A. Hill, 5,954-78 feet, 2,930,000 feet of gas. Sun Oil Co. No. 1 R. S. and H. H. Daily, 5,881-93 feet, 4 bbls.

Limestone County

Strowd No. 1 S. Adkins, dry and abandoned.

Navarro County

Sitton-Ivey No. 2 Marshall, 610-653 feet, 2 bbls. Touhy & Darnes No. 1 G. H. Love, dry and abandoned at 975 feet.

Smith County

Combest Oil No. 1 Dora Kendall, dry and abandoned at 3,226 feet.

Titus County

In the Talco field, Humble Oil & Refining Co. No. 60 King, 4,195-4,263 feet, 235 bbls.

Eastern Fields

(Continued from Page 94)

Bratton Hanna test; at 1,630 feet in the Ida Hugart test.

Deep Tests

In Jackson County, Joe Rubin and others milled through the bridge in the test on the W. J. Brown farm in Ravenswood district and got the first gas, after a shot, from the Oriskany sand. It gauged about 400,000 feet a day but the pressure drove the milling tools up the hole and snapped the line. The tools are now being fished.

In Grant district, Pleasants County, Columbian Carbon Co. is underreaming at 4,155 feet on the Giles Hammat farm.

New Work

In Calhoun County, L. B. Carroll has a location for a test on the Mollie Cain farm in Sheridan district, elevation 866 feet. In this district, O. K. and N. C. Rogers are drilling at 510 feet in No. 4 D. M. Miller, and W. A. Bickerstaff is down 795 feet in No. 2 W. H. Freed Heirs.

In Gilmer County, A. E. Ellis has a location for No. 3 R. C. Webster and Ola Ware, in DeKalb district, elevation 796 feet. Here, McCall Drilling Co. is down 359 feet on the L. E. Ellyson heirs farm. In Glenville district, W. K. McKnight has reached 900 feet on the Griffin, Whiting and Reed lease.

In Lewis County, Goodwin and Watson have reached 2,035 feet on the C. and G. Burkhammer farm in Court House district. In Lincoln County, R. H. Adkins is drilling at 850 feet in the Alfred Lovejoy test, Jefferson district.

In Doddridge County, Wright and McIntyre are running 8-inch casing at 1,080 feet on the Nancy Bates farm in McClellan district. In Central district, James Prunty is rigged up on the R. L. Boyce farm.

In Marshall County, Clara V. Moore is fishing for tools at 560 feet in No. 3 D. H. Arrick, Franklin district. In Liberty district, the Carnegie Natural Gas Co. is deepening No. 2 T. C. Pipes and has reached 2,550 feet.

In Monongalia County, Cummins, Phillips and others are building a rig on the Cumberledge farm in Battelle district. In Marion County, Clifton Oil & Gas Co. is drilling at 790 feet in No. 2 Isaac Campbell Heirs, Mannington district.

In Pleasants County, Dinsmoor & Co. made a location on the Emery Noland farm in Jefferson district. elevation 879 feet. In Lafayette district, Maxwell Oil Co. had reached 1,550 feet in No. 2 Noah Williamson.

In Ritchie County, Tri County Oil & Gas Co. is drilling at 2,100 feet in No. 3 Ezra Bell, in Union district. Moore Farm Oil Co. is building rig on the W. F. Moore farm in Clay district. In Murphy district, Z. N. Connolly is down 960 feet in the Ernest Wilson test.

In Roane County, Harry Anderson made a location on the J. W. White farm in Smithfield district, elevation 845.49 feet. In Reedy district, Hope Natural Gas Co. is drilling at 600 feet in No. 7820 Clark Wright.

Michigan Field Report

By
O. C. PRESSPRICH

Southwestern Fields Again Lead in Completion Results

SAGINAW, Mich., Oct. 3.—Overproduction reared its head in the Southwest Michigan oil picture this week with a price slash on October 1 by buyers of Allegan County and Van Buren County crude to $1.05 per barrel, despite a recent 200-bbl. per well proration curb, while new wells in the field continued to pour out an increasing volume of oil.

The potentiality of the new southwestern fields affected all the state fields, as effective October 1, Simrall Corp. of Mount Pleasant made a cut of 9½ cents per barrel in Greendale, Porter and Crystal in the Midland area, making the new price in the pools named $1.02 per barrel. Same company cut Buckeye, Bentley, Edenville, Beaverton and Freeman 9½ cents to a new price of $1 per barrel. West Branch and Arenac pools were cut to 84 cents, a 6-cent reduction.

Allegan fields continue to lead Michigan production, with eight of the current week's 13 new producers. Van Buren County's Bloomingdale field accounted for two new oil wells. Despite the 200-bbl. curb, the two pools in the past week added an estimated 4,400 bbls. to potential daily production.

Other state fields added only three oil wells during the week, the Isabella-Sherman field returning to the production column with two producers while the Gladwin-Bentley field added one. For the first time in several weeks there were no completions in the Buckeye field. In the Clare-Freeman area, where extensive exploration is under way, a dry hole was the only completion. The Midland-Edenville pool likewise failed to record a completion.

Allegan County

Overisel Township (4n-14w)—Three producers and a dry hole were added during the week to the Overisel pool proper, all continuing to indicate a northwestern and westerly trend of production from the first well. Muskegon Development Co. No. 3 Berens, SW NW SE Section 35, had an estimated acidized production of 500 bbls. daily. The test is a western extension of the pool, and indicates probable favorable development in a somewhat wider arc swinging to the northwest. Black Rock Oil Co. No. 4 Scholten, SW NW SE Section 36, north of the discovery well failed to rate on a par with surrounding producers, although a good commercial producer, estimated at 150 bbls. after acid. Development northwest of the discovery well, in central Overisel Township, continued to prove satisfactory as W. S. Cook No. 1 Rigterink, SW SW NW Section 22, gauged at 150 bbls. after acid. The one failure in the Overisel pool proper was Gordon Oil Co. No. 1 Vander Kolk, SE SW NE Section 21. Favorable wells were developed in Section 21 two weeks ago, but the Gordon well slightly to the northwest of the recently completed producers failed to find pay, and was scheduled for abandonment.

Heath Township (3n-14w)—Section 1, adjoining Overisel Township, Section 36 on the south, continued to add flush producers. Three additions of the week added an estimated 1,625 bbls. daily. Gordon Oil Co. No. 1 Groenheide, NW SW NE Section 1, was rated at 625 bbls. naturally, while Diamond Springs Syndicate No. 1 Rigterink, NE SE NW Section 1, was rated at 600 bbls. daily after acid treatment. Fortney Oil Co. No. 4 Wesseling, SW NW NE Section 1, gauged 400 bbls. natural flow before being pinched in. The one dry hole in Heath this week probably established a western boundary marker for the Heath pool in Section 3, where K. G. Nilson No. 1 Lampen, SE NE SE Section 3 failed to log a showing.

Salem Township (4n-13w)—The original Salem field in the central part of the township added a pair of producers, while an attempt to tie up an extension of the Overisel pool along Salem's western border failed to develop commercial production. Salem joins Overisel on the east. A. S. Cochran No. 3 Nineker, SE SW NW Section 21, rated among the best of the recent additions to the old pool, with an estimated 700 bbls. daily after acid treatment. Dawn Development Co. No. 3 Hardy, C S half NE NW Section 21, gauged 200 bbls. after it was acidized. The western Salem failure was Jetter Drilling Co. No. 1 Methodist Church, SW SW SW Section 31.

Cheshire Township (1n-14w)—American Drilling Co. No. 1 Anderson, SE SE SW Section 32, was abandoned this week as a failure. The test was a wildcat in the south part of Allegan County. It was the fourth Allegan failure of the week, Overisel, Heath and Salem Township also recorded one dry hole each.

Van Buren County

Bloomingdale Township (1s-14w)—Two producers and two dry holes summarized completions of the week in the state's newest and most sensational oil pool. Again, as in the previous week, the Bloomingdale pool developed the top-ranking producer estimated at better than 1,000 bbls. daily natural flow. The well was Fisher & McCall Trust's No. 3 Wiggens, NW SW SE Section 9. Last week the same company's No. 1-B State, north offset to discovery well, rated an estimated 1,400 bbls. daily. Bloomingdale with its prolific production just below 1,300 feet holds a major share of Michigan's petroleum interest, and appears headed for widespread play. Rex Oil & Gas Co. No. 2 Williams, NW SE SE Section 9—approximately a quarter-mile east, or two locations from the Wiggens 1,000-bbl. well, rated only 100 bbls. naturally and was scheduled for acid treatment. Structurally the well compared with the big producer of the week but porosity was said to be lacking. The two dry holes were A. R. Morris No. 1 Patrick, NW SE NW Section 9, and J. W. McIntosh No. 1 Compton, SE NE SW Section 9. The McIntosh failure is two locations west and one north of Fisher-McCall's large natural producer of the week, while the Morris failure is three locations north of McIntosh's dry hole.

Isabella County

Sherman Township (15n-6w)—Pure Oil Co. completed its two final active locations in the Sherman Township pool successfully rating nearly 1,200 bbls. acidized production. Pure No. 1 Goodenough, SE SE NE Section 32, was acidized to an estimated 700 bbls. daily, and No. 2 Cornell, S half N half NW Section 35, rated more than 450 bbls. daily. The tests were the only incompleted locations in the Sherman pool.

Gladwin County

Bentley Township (17n-2e)—Sun Oil Co. completed the only Gladwin County producer. It was No. 2-A State, NW SW SW Section 21, estimated at 50 bbls. daily after it was acidized. Buckeye fields, with seven tests located or in various early drilling stages, failed to tally a completion for the first time in several weeks.

Clare County

Freeman Township (18n-6w)—A significant dry boundary marker was established in the Freeman pool this week, which operators believe indicates a danger signal to eastern extension of the present pool. Dapar & Weller No. 1 No. 1 White, NW NE NE Section 2, drilled into salt water when 5 feet in the Monroe, Wednesday at a depth of 3,940 feet. The White test is about 1 mile east of the discovery well. The dry hole may influence progress at some six or more producers slightly northwest. Structurally formations were reported lower than in the first well, but water only a few feet in the Monroe pay zone was an ill omen, operators declared. The Freeman area has more than 20 wells located and drilling.

Wildcat Completions

R. B. Somerville and others No. 1 Bowman, SE SW SE Section 19-7n-14w, in Ottawa County, was dry and abandoned at 1,752 feet. Traverse lime was topped at 1,686 feet.

In Midland County, C. W. Teater No. 1 Tushingham, SW NE SW Section 26-16n-2w, was dry and abandoned at 4,555 feet. Dundee lime was topped at 3,753 feet.

In Clare County, J. V. Wicklund Development Co. No. 3 State M, NE NW SE Section 5-18n-6w, topped Dundee lime at 2,896 feet and was abandoned as dry at 3,913 feet. McClanahan Oil Co. No. 1 Perkins, NE NE NE Section 15-18-6w, had Dundee lime at 3,900 feet and drilled to 3,967 feet. It was dry, and the hole was plugged back and pipe perforated at 1,472-85 feet where the well produced 1,180,000 feet of gas from a stray sand. When the hole was being drilled this sand had produced 16,690,000 feet of gas in 24 hours, but it was passed up in the hope of oil production in the lower levels.

In Montcalm County, Donald Sessions No. 1 Loucks, SW NE NW Section 13-10n-5w, was dry and abandoned at 3,210 feet. Dundee had been topped at 3,192 feet. H. F. Solomon and J. G. Turner No. 1-A A. L. Jack, in Section 7-12n-9w, was dry and abandoned at 3,360 feet. Dundee was topped at 3,255 feet and Black Water lime was penetrated at 3,352-60 feet.

In Allegan County, American Drilling Co. No. 1 Emil Anderson, SE SE SW Section 32-1n-4w, had Traverse lime top at 1,260 feet, salt water at 1,279-84 feet, and was abandoned at 1,303 feet.

In Van Buren County, Gulf Refining Co. No. 1 Iodent, SW SE SE Section 25-4s-15w, was abandoned at 1,111 feet. It was dry. Traverse lime top was found at 942 feet.

In Allegan County, K. G. Nelson No. 1 Lampen, SE NE SE Section 3-3n-14w, with the top of the Traverse at 1,543 feet, was dry and abandoned at 1,547 feet. Hugh Heinig and Norton Stewart Petroleum Corp. No. 1 Pushel, SW SW SE Section 23-3n-14w, was dry and abandoned in Traverse lime at 1,760-81 feet, total depth.

Kansas Fields

(Continued from Page 93)

was dry and abandoned at 1,803 feet in Mississippi lime. Shaffer & Howell No. 18 Schneider, NW SW NW Section 15-23-13, North Virgil pool, Greenwood County, was completed. It produced 25 bbls. of oil from the Bartlesville sand after the sand was shot with 80 quarts. Total depth is 1,581 feet.

In Woodson County J. J. Trott No. 1 Abbott, NW NE NE Section 21-25-14, wildcat test 1 mile north of the Batesville pool, failed to extend production of that pool. The Mississippi lime failed to produce, and the test is dry and abandoned at 1,519 feet. Barker and others No. 1 Allan, NE NW NE Section 30-25-14, was being rigged up in the Quincy pool.

In Coffey County, James Kilby No. 1 Crandall, SW cor. Section 15-23-15, was dry and abandoned at 1,543 feet, in Mississippi lime.

In Geary County Midland Oil Co. abandoned location for No. 1 Gfeller, C NW NW Section 6-12-5.

H. & M. Drilling Co. No. 2 Wiggers, C NW NE Section 36-19-2w, is a new location in the Ritz pool in McPherson County.

Ace Oil Co. No. 1 Lennery, NE NE NW Section 21-25-1, is rigging up. This is a new operation in the Goodrich pool in Sedgwick County.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Oct. 1.—Owing to reduced demand for petroleum products in the prairie provinces as a result of the ending of the harvest and a slackening of tourist traffic, the Alberta Petroleum and Natural Gas Conservation Board has reduced the aggregate production of the Turner Valley crude area from 28,300 to 22,000 bbls. Under the new schedule of quotas, no individual well exceeds 1,000 bbls. per day. Among the larger producers, Frontier Royalties No. 1 has been cut from 1,955 to 978 bbls.; York Royalties No. 1 from 2,084 to 977 bbls.; Sundance Royalties No. 1 from 1,909 to 954 bbls.; Royalite Oil Co. No. 30 from 1,250 to 919 bbls.; Vulcan-Brown Petroleums No. 1 from 1,744 to 868 bbls. and Sunset Oils No. 1 from 1,738 to 863 bbls.

Among the recent completions, Royalite Oil Co. No. 33, LSD 2, Section 5-19-2w5, in the West Central area, is allotted a first quota of 500 bbls. a day. In Section 29-18-2w5, Commoil No. 2, LSD 10, finished at 7,665 feet, has quota of 730 bbls.

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LOW COST DIESEL FUELS with a wider range of cetane ratings can be burned than with any compression ignition engine . . . and with the greatest over-all economy.

EASILY CONVERTIBLE TO BURN GAS . . . in an hour's time *without rebuilding.* No internal parts need be changed.

EASIER STARTING . . . because of its precisely timed spark ignition, low pressures and gasoline primer.

LONGER LIFE, with LOW UP-KEEP because, with pressures no higher than in a gasoline engine, there's no stress and strain on the engine itself.

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WAUKESHA MOTOR COMPANY, WAUKESHA, WIS.
NEW YORK . TULSA . LOS ANGELES

In Section 20-18-2w5, York Oils No. 1, LSD 2, temporarily rated a week ago at 2,084 bbls., has quota of 977 bbls.

In the same section, Sunset Oils No. 2, LSD 7, finished at 7,525 feet, was given acid treatment, developing a strong oil show with a low gas-oil ratio. It was given an initial allowable of 859 bbls. a day. It may be reacidized in the gas horizon.

Tests in the Lime

In Section 20-18-2w5, Consolidated Royalties No. 1, LSD 14, is below 7,622 feet, after getting the Madison limestone at 7,545 feet and cementing at 7,568 feet.

In Section 16-18-2w5, Brown Oil Corp. No. 5, LSD 12, is below 6,787 feet, after getting the Madison at 6,657 feet. It cemented 6⅝-inch casing in the top of the lime. Richwell Oil Co. No. 1, being completed by Neil McQueen and associates of Vancouver, got the Madison at 6,676 feet and is cementing below 6,688 feet.

Northwest Extension

Northwest of West Central Turner Valley, Sun Ray Oil Development Co., LSD 8, Section 13-19-3w5, has been delayed by boulders and heavy successive flows of surface water. It is drilling and underreaming in softer formation below 450 feet. Location is 3 miles northwest of Vulcan-Brown No. 1 producer, and testing a possible important new extension of the crude area.

West Side Drilling

In Section 5-19-2w5, West Central area, Royalite Oil Co. No. 34, LSD 7, is below 5,686 feet. Royalite No. 37, LSD 11, is rigging.

In Section 32-18-2w5, Royalite No. 36, LSD 13-14, is below 1,857 feet. Davies Petroleums No. 4, LSD 10, is below 6,600 feet after getting the Dalhousie sand at 6,367 feet. West Turner Petroleums No. 3, LSD 6, is in the Blairmore formation below 6,150 feet. British-Colonial Oils No. 1, LSD 5, is deepening from 1,430 feet after sidetracking and straightening hole. The test has been taken over and will be completed by Jack and Charles Perdue of Toronto. In Section 29-18-2w5, Command Oils No. 1, LSD 14, is blow 6,265 feet. In Section 20-18-2w5, Producers Crude Corp. No. 1, LSD 11, is entering the Blairmore formation below 6,101 feet. In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 3, LSD 10, is fishing at 3,867 feet. Extension Royalties No. 1, LSD 14, is below 3,910 feet after installing rotary outfit.

In Section 16-18-2w5, Royal Canadian Oil Co. No. 2, LSD 4, is below 6,405 feet and getting close to the Madison limestone. Okalta Oil Co. No. 8, LSD 6, is below 1,600 feet.

In Section 9-18-2w5, D. & D. Oils No. 1, LSD 12, is standing with 10-inch cemented at 2,530 feet.

In Section 5-18-2w5, P. & H. Development Co. No. 1, LSD 7, has resumed from 185 feet. It is now the farthest south active test in the field, being 1½ miles south of National Petroleum Corp. No. 2 producer.

Western Extension

West of the proven field, Scottish Petroleums No. 1, LSD 16, Section 19-18-2w5, has rotary rigged to resume from 960 feet. Anglo-Canadian Oil Co. No. 1, LSD 16, Section 31-18-2w5, is in the Blairmore formation below 7,266 feet.

North Turner Valley

In Section 27-20-3w5, North Turner Valley, Royalite Oil Co. No. 35, LSD 7, is in the Blairmore formation below 3,179 feet. Home Oil Co. No. 2 Millarville, LSD 6, Section 33-20-3w5, is below 6,943 feet after getting the Home sand at 6,740 feet. The log indicates the lime at 7,500 feet.

New Tests Planned

In Section 32-18-2w5, cellar is being dug for National Petroleum Corp. No. 3, C LSD 15, west of Royalite No. 28 producer and southeast of Royalite No. 36.

In Section 20-18-2w5, equipment is in for York Oils No. 2 in LSD 6, west of the Highwood River and northwest of York No. 1 producer.

Northern Foothills

On the Pouce Coupe structure, in the northern foothills west of Peace River, Guardian Oil Co. No. 1, Section 7-30-12w6, is below 2,300 feet.

On th Brazeau structure west of Edmonton, Home Oil Co. No. 1 Brazeau, LSD 16, Section 7-43-17w5, is cleaning and carrying casing close to old bottom at 4,520 feet.

On the Ram River structure, northwest of Rocky Mountain House, Ram River Oils No. 1 is working on derrick and hauling drilling equipment. It is expected to spud about October 15, with production looked for inside 3,000 feet. Drilling starts in the Devonian limestone.

On the Clearwater structure, Canyon-Canadian Western No. 1, Section 31-34-9w5, diamond drill test is below 116 feet. Test will be officially known as No. 1 Altoba.

On the Bearberry structure, Petroleum Structures No. 1, LSD 4, Section 2-33-7w5, is in hard formation below 3,466 feet.

On the Moose Dome, Moose Oils No. 2, LSD 8, Section 29-22-6w5, is clearing crude from hole preparatory to deepening from 1,533 feet, where a stray sand with about 25 bbls. pumping production was encountered.

Southern Foothills

On the Highwood-Sinclair structure of Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, Section 34-17-3w5, is in green lime below 6,247 feet. It is more than 886 feet below the Madison contact, and now shows distinct differences from the Madison in Turner Valley. Farther south on the same structure, J. & J. Syndicate No. 1, LSD 9, Section 12-16-3w5, is working on derrick, with some equipment on the ground. Location offsets the old Alberta Associated test, started in 1914 and abandoned at 2,860 feet after encountering considerable light crude.

On the Watson structure, Mar Jon Oil Co. No. 3, LSD 3, Section 4-10-2w5, is redrilling from 5,180 feet after cementing back on account of caving. The old bottom at 5,420 feet was in the lower Blairmore formation. Gas from the well is being used for drilling fuel.

Quaich Test Planned

Quaich Petroleums, Ltd., has been incorporated under Alberta charter to develop acreage in the southern foothills south and west of the Watson structure.

Taber Field

In the Taber field, southern Alberta, Plains Petroleum Corp. No. 4, LSD 15, Section 25-9-17w4, is deepening below 3,222 feet after getting a show of crude at 3,200 feet. It is 29 feet deeper than Plains No. 2 producer, one-eighth mile southwest; the latter is producing water with crude, while crude in No. 4 is water free.

North Taber Royalties No. 1, LSD 7, Section 10-11-15w4, is below 1,030 feet after making water shutoff in the Milk River formation. It has some additional gas production.

(Continued on Page 106)

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Hancock-Bush, No. 3 Bradley, Santa Maria, S. Barb.	26-10-34	5,391	sd. sh. drlg.
Union Oil, No. 4 Vicente, Santa Maria, Santa Barb.	21-10-34	5,153	pump. test
Union Oil, No. 2 Security, Santa Maria, Santa Barb.	22-10-34	4,682	pump 465 b.d.
O'Donnell, J. E., No. 1 Helen, Lompoc, Santa Barbara	8- 7-33	4,651	sd. sh. drlg.
Barnsdall, No. 5 Magenheimer, Gato Ridge, S. Barb.	9- 8-32	3,035	idle
Barnsdall Oil, No. 1 Tezzoni, Gato Ridge, S. Barbara	15- 8-32	3,262	br. sh. drlg.
Oceanic Oil, No. 1 Lowe, Santa Barb. Mesa, S. Barb.	28- 4-27	1,271	sd. sh. drlg.
Ventura Drlg., No. 1, Ojai, Ventura	10- 3-23	350	rig rotary
Texas Co., No. 5 Yale, South Mountain, Ventura	13- 3-21	6,702	P.B. 4,030
Merchants Pet., No. 1, Sespe, Ventura	1- 4-20	1,180	sd. sh. drlg.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	586	sd. sh. drlg.
Section 20 Oil, No. 1 Sespe, Ventura	20- 5-19	2,291	sd. sh. drlg.
McKinnis, C. R., No. 1, Hopper Canyon, Ventura	14- 4-19	968	sd. sh. drlg.
Texas Co., No. 135 Shiells, Shiells Canyon, Ventura	4- 3-19	3,472	sd. sh. drlg.
Continental Oil, No. 9 Grubb, San Miguelito, Ventura	24- 3-24	6,890	O.S. drlg.
Ridge Oil, No. 1 Fox, Padre Canyon, Ventura	9- 3-24	5,630	gr. sd. drlg.
C. C. M. Oil, No. 7 Oakgrove, Padre Canyon, Ventura	23- 3-24	6,452	gr. sd. drlg.
C. C. M. Oil, No. 23-B Hobson, Rincon, Ventura	8- 3-24	2,697	sd. sh. drlg.
General Pet., No. 3 Tomson, Rincon, Ventura	8- 3-24	3,453	redrlg. 3,312
Richfield Oil, No. 5-F State, Ventura	17- 3-24	3,756	sd. sh. drlg.
Tide Water A. O., No. 36 V.L.W., Ventura Ave., Vent.	26- 3-23	1,593	sd. sh. drlg.
Tide Water A. O., No. 11 Lloyd, Ventura Ave., Vent.	27- 3-23	10,260	fish. liner
Tide Water A. O., No. 126 Lloyd, Ventura Ave., Vent.	27- 3-23	4,062	sd. sh. drlg.
Tide Water A. O., No. 127 Lloyd, Ventura Ave., Vent.	27- 3-23	9,910	hd. sd. drlg.
Tide Water A. O., No. 134 Lloyd, Ventura Ave., Vent.	27- 3-23	8,295	flow water
Tide Water A. O., No. 7 Hartman, Ventura Ave., Vent.	22- 3-23	8,630	sd. sh. drlg.
Tide Water A. O., No. 11 McGonigle, Vent. Ave., Vent.	23- 3-23	10,125	flow 1,115 b.d.
Shell Oil, No. 96 Taylor, Ventura Ave., Ventura	28- 3-23	8,050	sd. sh. drlg.
Shell Oil, No. 30 Edison, Ventura Ave., Ventura	20- 3-23	7,397	sd. sh. drlg.
General Pet., No. 16 Barnard, Ventura Ave., Vent.	21- 3-23	5,449	cleaning out
Lloyd Corp., No. 2 Dabney-Lloyd, Ventura Ave., Vent.	23- 3-23	6,080	sd. sh. drlg.
Gibson Oil, No. 3 Alferitz, Devils Den, Kern	14-25-18	1,154	O.S. drlg.
Cal. Lands, Inc., No. 1 Occidental, Lost Hills, Kern	24-26-20	5,660	sd. sh. drlg.
Belridge Oil, No. 27-4, North Belridge, Kern	27-27-20	1,957	sd. sh. drlg.
Belridge Oil, No. 27-13, North Belridge, Kern	27-27-20	7,303	br. sh. drlg.
Belridge Oil, No. 27-19, North Belridge, Kern	27-27-20	5,598	br. sh. drlg.
Belridge Oil, No. 27-31, North Belridge, Kern	27-27-20	5,660	br. sh. drlg.
Tide Water A. O., No. 22-3, North Belridge, Kern	22-27-20	7,261	sd. sh. drlg.
Tide Water A. O., No. 22, North Belridge, Kern	21-27-20	4,997	sd. sh. drlg.
Crestmont Oil, No. 5 Staley, Round Mountain, Kern	8-28-29	1,604	whipstocking
Shell Oil, No. 4 Olcese, Round Mountain, Kern	21-28-29	1,350	sd. sh. drlg.
Honolulu Oil, No. 59, Round Mountain, Kern	20-28-29	1,960	O.S. drlg.
Fuhrman, A., No. 13 Kernco, Kern River, Kern	28-28-28	194	sd. sh. drlg.
Morrison, C. S., No. 14 Kernco, Kern River, Kern	2-29-28	360	hd. sd. drlg.
Helm & Smith, No. 8-A Kernco, Kern River, Kern	34-28-28	601	O.S. drlg.
Little & Gilstrap, No. 1 Keating, Mount Poso, Kern	20-27-27	2,047	O.S. drlg.
Union Oil, No. 13 Tribe, Mount Poso, Kern	28-27-28	1,370	sd. sh. drlg.
Richfield Oil, No. 1, Union Avenue, Kern	5-30-28	5,770	sd. sh. drlg.
Western Gulf Oil, No. 4 Price, Fruitvale, Kern	22-29-27	3,870	flow 185 b.d.
Western Gulf Oil, No. 39-B, KCL, Fruitvale, Kern	14-29-27	3,708	sd. sh. drlg.
Meridian Oil, No. 5 fee, Fruitvale, Kern	23-29-27	3,666	C.P. 3,544
Texas Co., No. 1 Lowe, Fruitvale, Kern	7-29-27	10,122	P.B. 9,762
Greer, P. H., No. 2 Perrel, Mountain View, Kern	9-31-29	6,638	redrlg. 6,323
Renner, G. E., No. 2 R.H.L., Sivert, Kern	27-30-30	792	sd. sh. drlg.
Continental Oil, No. 3-A, KCL, Wasco, Kern	8-27-24	13,390	sd. sh. drlg.
Continental Oil, No. 1, KCL, Seaboard, Wasco, Kern	26-27-24	12,778	redrlg. 12,702
Standard Oil, No. 8-1-B, KCL, Wasco, Kern	17-27-24	12,990	sd. sh. drlg.
Standard Oil, No. 1 Mushrush, Wasco, Kern	7-27-24	11,786	sd. sh. drlg.
Cal. Lands, Inc., No. 1 Salisbury, Buttonwillow, Kern	7-29-24	4,747	sd. sh. drlg.
Superior Oil, No. 2 Ruhl, Rio Bravo, Kern	1-29-25	10,462	sd. sh. drlg.
Superior Oil, No. 3 Ruhl, Rio Bravo, Kern	1-29-25	2,477	sd. sh. drlg.
Superior Oil, No. 1 Helbling, Rio Bravo, Kern	1-29-25	14,018	tested wet
Union Oil, No. 2-34, KCL, Rio Bravo, Kern	34-28-25	11,204	redrlg. 10,550
Union Oil, No. 5-34, KCL, Rio Bravo, Kern	34-28-25	10,898	sd. sh. drlg.
Union Oil, No. 6-34, KCL, Rio Bravo, Kern	34-28-25	8,841	sd. sh. drlg.
Getty Oil, No. 3 Ramsey, Rio Bravo, Kern	35-28-25	8,171	sd. sh. drlg.
General Pet., No. 4 Wagoner, Rio Bravo, Kern	35-28-25	11,330	sd. sh. drlg.
Gen. Pet., No. 4 Van Ness, Rio Bravo, Kern	2-29-25	7,785	sd. sh. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	10,799	sd. sh. drlg.
Standard Oil, No. 1 Elrich, Greeley, Kern	20-29-26	4,730	sd. sh. drlg.
Superior Oil, No. 1 Krause, Greeley, Kern	21-29-26	10,997	hd. sh. drlg.
Continental Oil, No. 1-E, KCL, Stevens, Kern	17-30-26	8,574	redrlg. 7,430
Shell Oil, No. 83-25-A, KCL, Ten Section, Kern	25-30-25	7,760	sd. sh. drlg.
Shell Oil, No. 47-20-B, KCL, Ten Section, Kern	20-30-26	7,088	sd. sh. drlg.
Shell Oil, No. 67-20-B, KCL, Ten Section, Kern	20-30-26	8,226	P.B. 8,210
Shell Oil, No. 43-14-A, KCL, Canal, Kern	14-30-25	6,492	sd. sh. drlg.
Shell Oil, No. 87-4-B, KCL, Canal, Kern	4-30-25	4,380	sd. sh. drlg.
Ohio Oil, No. 8-E, KCL, Canal, Kern	14-30-25	8,292	O.S. drlg.
Standard Oil, No. 1 Rio Bravo fee, Canal, Kern	12-30-25	7,864	fish bit
Richfield Oil, No. 1, KCL, Tupman, Kern	32-30-25	7,970	sd. sh. drlg.
Ohio Oil, No. 1-F, KCL, Coles Levee, Kern	10-31-25	7,880	sd. sh. drlg.
Ohio Oil, No. 8-A, KCL, Buena Vista Lake, Kern	32-31-26	10,044	idle
Gibson Oil, No. 3 Blanck, Midway-Sunset, Kern	6-11-23	2,367	sd. sh. drlg.
Lilly Oil, No. 3 Lilly, Midway-Sunset, Kern	36-32-23	1,027	test W.S.O.
Magnuson, C. A., No. 1 Midway, Midway-Sunset, Kern	19-31-23	3,950	gr. sd. drlg.
Richfield Oil, No. 1, KCL, Wheeler Ridge, Kern	28-11-20	7,000	sd. sh. drlg.
Petrol Corp., No. 33-5 Reserve, Tejon Ranch, Kern	33-11-19	4,960	hd. sd. drlg.
Pierce, Cyrus, No. 1 Shorb, Panoche, Fresno	16-14-12	787	sd. sh. drlg.
Pure Oil, No. 1, SPL, Huron, Fresno	31-18-17	12,254	gr. sh. drlg.
Magnet Oil, No. 2 Fearon, Fresno	18-19-15	4,835	may abdn.
Tide Water A. O., No. 1-F, North Coalinga, Fresno	1-19-15	4,970	sd. sh. drlg.
Pet. Sec., No. 31-18-F, East Coalinga, Fresno	18-20-16	2,177	sd. sh. drlg.
Goetz, F., No. 1, East Coalinga, Fresno	10-20-15	6,450	br. sh. drlg.
Standard Oil, No. 82-13 fee, East Coalinga, Fresno	13-20-15	6,681	sd. sh. drlg.
Texas Co., No. 19 Mohawk, East Coalinga, Fresno	12-20-15	4,224	bailed water
Universal Consd. Oil, No. 1, East Coalinga, Fresno	12-20-15	8,108	P.B. 7,115
Tide Water, No. 66 Guardian, East Coalinga, Fresno	12-20-15	6,380	hd. sd. drlg.
Superior Oil, No. 1 fee, East Coalinga, Fresno	7-20-16	1,894	sd. sh. drlg.
Shell Oil, No. 21 Coast Range, E. Coalinga, Fresno	17-19-15	1,020	sd. sh. drlg.
Dauphin Dev., No. 2 Boone, Alcalde, Fresno	30-21-14	2,790	sd. sh. drlg.
Stuart Oil, No. 1 Alcalde, Alcalde, Fresno	12-21-14	296	sd. sh. drlg.
Union Oil, No. 4 King, Kettleman North, Fresno	29-21-17	8,500	will redrl.
Superior Oil, No. 4-H, Kettleman North, Fresno	29-21-17	8,600	redrlg. 7,592
K.N.D.A., No. 38-6-Q, Kettleman North, Kings	6-22-18	8,205	flow 1,098 b.d.
K.N.D.A., No. 27-8-Q, Kettleman North, Kings	6-22-18	8,418	hd. sd. drlg.
K.N.D.A., No. 58-8-Q, Kettleman North, Kings	8-22-18	8,260	hd. sd. drlg.
K.N.D.A., No. 36-16-Q, Kettleman North, Kings	16-22-18	5,396	sd. sh. drlg.
K.N.D.A., No. 38-16-Q, Kettleman North, Kings	16-22-18	8,000	hd. sd. drlg.
K.N.D.A., No. 43-20-Q, Kettleman North, Kings	20-22-18	8,914	rig compressor
K.N.D.A., No. 27-22-Q, Kettleman North, Kings	22-22-18	8,670	cleaning out
Standard Oil, No. 21-13-P, Kettleman North, Kings	13-22-17	7,835	sd. sh. drlg.
Standard Oil, No. 41-17-Q, Kettleman North, Kings	17-22-18	6,197	sd. sh. drlg.
Standard Oil, No. 61-21-Q, Kettleman North, Kings	21-22-18	7,296	cmtd. 7,120
Caminol, No. 3 Amalgamated, Allensworth, Tulare	29-24-24	9,308	br. sh. drlg.
Texas Co., No. 1 Lewis, King City, Monterey	13-19- 5	3,374	br. sh. drlg.
Tannehill, L. B., No. 1 Reliz, King City, Monterey	36-20- 8	369	core hole
Temblor Range, No. 1 Temblor Range, S. L. Obispo	22-31-22	3,045	will deepen
Loma Grande Oil, No. 1 Edna, San Luis Obispo	28-31-13	1,497	cmtd. 1,240
Hancock Oil, No. 1 Dick, Huasna, San Luis Obispo	30-12-33	3,750	pump water
Ohio Oil, No. 2 Willard, Willows, Glenn	18-20- 2	1,968	sd. sh. drlg.
Amerada Pet., No. 1 California Lands, Colusa, Colusa	34-16- 1	7,252	br. sh. drlg.
Wilshire Oil, No. 2 Crowell, Half Moon Bay, S. Mateo	20- 6- 5	749	sd. sh. drlg.
Richfield Oil, No. 1, Potrero Hills, Solano	10- 4- 1	4,506	sd. sh. drlg.
Orestimba Oil, No. 1 S. N., Newman, Stanislaus	12- 7- 7	472	sd. sh. drlg.
Barnhart & Morrow, No. 1 Arnold, Berenda, Madera	22-10-17	1,338	sd. sh. drlg.
Texas Co., No. 2 Eureka, Eureka, Humboldt	22- 3- 1	7,708	will redrl.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Sovereign Oil, No. 1 Coppinger, El Segundo, L. A.	12- 3-15	7,350	cleaning out
Rolling Hills Oil, No. 1 Weston, Palos Verdes, L. A.	27- 4-14	5,100	idle
Allison & Oglesby, No. 1 Gerner, Torrance, Los A.	23- 4-14	5,166	recmtd. 5,166
Amron Oil, No. 1 Lomita, Torrance, Los Angeles	32- 4-14	2,154	sd. sh. drlg.
A. T. Oil, No. 1 fee, Torrance, Los Angeles	23- 4-14	4,487	sd. sh. drlg.
Berseid & Clark, No. 1 Basin, Torrance, Los Angeles	23- 4-14	3,783	will deepen
Blue Bell Pet., No. 1 Simons, Torrance, Los Angeles	23- 4-14	5,271	P.B. 4,880
Bandini Pet., No. 1 Harbor, Torrance, Los Angeles	23- 4-14	2,598	sd. sh. drlg.
Coastal Counties Oil, No. 6, Torrance, Los Angeles	23- 4-14	5,106	O.S. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shut off O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Collier, P. V., No. 1 Smith, Torrance, Los Angeles	23-	4-14	4,176	sd. sh. drlg.
Cal. Star. Oil, No. 1 Anderson, Torrance, Los Angeles	23-	4-14	3,587	sd. sh. drlg.
Douglas, A., No. 1 Beaudette, Torrance, Los Angeles	23-	4-14	4,990	sd. sh. drlg.
Del Amo Oil, No. 1 Denbo, Torrance, Los Angeles	23-	4-14	4,920	P.B. 4,900
Elexico Oil, No. 4 Airey, Torrance, Los Angeles	23-	4-14	4,279	sd. sh. drlg.
Exeter Oil, No. 3 Lomita, Torrance, Los Angeles	23-	4-14	3,500	cleaning out
Freeman Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,960	bailing
Federated Oil, No. 1 Silver, Torrance, Los Angeles	23-	4-14	1,876	sd. sh. drlg.
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	3,807	rigged up
Kenber Oil, No. 1 Berken, Torrance, Los Angeles	23-	4-14	5,000	rig to pump
Kerben Oil, No. 2 Empire, Torrance, Los Angeles	23-	4-14	4,760	sd. sh. drlg.
Kovell Oil, No. 3 Lomita, Torrance, Los Angeles	22-	4-14	4,965	flow 630 b.d.
Kovell Oil, No. 4 Lomita, Torrance, Los Angeles	23-	4-14	4,810	sd. sh. drlg.
Lencia Oil, No. 1 Seeple, Torrance, Los Angeles	24-	4-14	3,672	sd. sh. drlg.
Louisiana Oil, No. 1 Lord, Torrance, Los Angeles	22-	4-14	3,800	redrlg. 3,371
Lebow, C. H., No. 1 Ellis, Torrance, Los Angeles	23-	4-14	4,193	sd. sh. drlg.
Mildon Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,980	sd. sh. drlg.
Medill, John, No. 4 Frenger, Torrance, Los Angeles	23-	4-14	3,595	rigged up
McDonald & Burns, No. 11 Moore, Torrance, Los A.	23-	4-14	4,665	sd. sh. drlg.
McCaslin, W. E., No. 2 Lomita, Torrance, L. A.	14-	4-14	4,993	pump 112 b.d.
M. P. S. Oil, No. 1 Julian, Torrance, Los Angeles	23-	4-14	4,999	fish tubing
Moon Oil, No. 2 Julian, Torrance, Los Angeles	23-	4-14	3,787	rigged up
Pacific West. Oil, No. 4 Marble, Torrance, Los A.	15-	4-14	4,986	pump 75 b.d.
Pacific West. Oil, No. 7 Marble, Torrance, Los A.	15-	4-14	3,800	rigging up
Pettijohn, J. E., No. 1 Lomita, Torrance, Los Angeles	22-	4-14	4,967	flow 565 b.d.
Standard Oil, No. 1-14 Marble, Torrance, Los Angeles	22-	4-14	4,800	sd. sh. drlg.
Standard Oil, No. 2-7 Marble, Torrance, Los Angeles	22-	4-14	4,980	sd. sh. drlg.
Standard Oil, No. 2-8 Marble, Torrance, Los Angeles	22-	4-14	4,820	sd. sh. drlg.
Star Pet. Co., No. 1 Patton, Torrance, Los Angeles	23-	4-14	5,145	pump 140 b.d.
Sunny State Oil, No. 1 Bailes, Torrance, Los Angeles	23-	4-14	4,970	sd. sh. drlg.
Ter Heun Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,865	cleaning out
Texas Co., No. 11 Wilson, Torrance, Los Angeles	14-	4-14	4,980	rig to pump
Caminol Co., Ltd., No. 2-12 Lomita, Harbor City, L. A.	25-	4-14	3,173	sd. sh. drlg.
General Pet., No. 9 Poggi, Harbo City, Los Angeles	30-	4-13	5,190	flow 315 b.d.
O'Donnell, J. L., No. 43, Harbor City, Los Angeles	25-	4-14	5,347	flow 495 b.d.
Macson Oil, No. 1589-1, Harbor City, Los Angeles	25-	4-14	4,480	sd. sh. drlg.
Padran Oil, No. 1 McEwen, Harbor City, Los Angeles	25-	4-14	4,194	sd. sh. drlg.
Macrate, A. N., No. 1 Kupfer, Harbor City, L. A.	25-	4-14	2,171	sd. sh. drlg.
D & B Oil, No. 2 Dawn, Harbor City, Los Angeles	25-	4-14	5,411	No O.S.
Bush Oil, No. 1 Torino, Harbor City, Los Angeles	25-	4-14	3,482	sd. sh. drlg.
Ring Oil, No. 1 Hawkins, Harbor City, Los Angeles	25-	4-14	5,285	flow 620 b.d.
Ring Oil, No. 2 Hawkins, Harbor City, Los Angeles	25-	4-14	3,192	sd. sh. drlg.
Silverado Oil, No. 1, Harbor City, Los Angeles	25-	4-14	5,150	sd. sh. drlg.
Texas Co., No. 1 Oakley, Harbor City, Los Angeles	30-	4-13	5,197	O.S. drlg.
Richfield Oil, No. 1 Spring, Harbor City, Los Angeles	30-	4-13	2,992	sd. sh. drlg.
Union Oil, No. 61 Callender, Dominguez, L. A.	32-	3-13	7,260	flow 365 b.d.
Union Oil, No. 63 Callender, Dominguez, L. A.	33-	3-13	4,396	sd. sh. drlg.
Shell Oil, No. 95 Reyes, Dominguez, Los Angeles	33-	3-13	9,110	cleaning out
Shell Oil, No. 96 Reyes, Dominguez, Los Angeles	33-	3-13	4,860	flow 693 b.d.
Stabler, W., No. 2 Marland, Dominguez, Los Angeles	3-	4-13	5,276	sd. sh. drlg.
Selbar Oil, No. 1 Richfield, Dominguez, Los Angeles	3-	4-13	4,248	redrlg. 1,891
Fairfield, F. E., No. 1 Abel, oRsecrans, Los Angeles	19-	3-13	6,660	sd. sh. drlg.
Exeter Oil, No. 4 Higgins, Rosecrans, Los Angeles	20-	3-13	7,665	flow 1,220 b.d.
Bankline Oil, No. 1 Kirby, Rosecrans, Los Angeles	20-	3-13	7,215	sd. sh. drlg.
Barnsdall Oil, No. 6 Trust, Rosecrans, Los Angeles	18-	3-13	7,775	faulted
Union Oil, No. 25 Rosecrans, Rosecrans, L. A.	19-	3-13	7,375	sd. sh. drlg.
Union Oil, No. 26 Rosecrans, Rosecrans, L. A.	19-	3-13	6,990	sd. sh. drlg.
Universal Consd., No. 5 Trust, Rosecrans, L. A.	18-	3-13	7,862	flow 1,440 b.d.
Universal Consd., No. 6 Trust, Rosecrans, L. A.	18-	3-13	513	sd. sh. drlg.
Republic Pet., No. 1 Trust, Rosecrans, Los Angeles	18-	3-13	6,141	redrlg. 5,998
Superior Oil, No. 10 Maxwell, Rosecrans, Los Angeles	20-	3-13	7,630	flow 1,075 b.d.
Superior Oil, No. 11 Maxwell, Rosecrans, Los Angeles	20-	3-13	3,199	sd. sh. drlg.
H. B. Oil, No. 1 Stevens, Rosecrans, Los Angeles	20-	3-13	6,866	sd. sh. drlg.
Basin Oil, No. 2 Potrero, Los Angeles	34-	2-14	2,860	sd. sh. drlg.
Tide Water A. O., No. 1 Porter, San Fernando, L. A.	27-	3-16	4,225	deepening
Barnsdall Oil, No. 4 R.S.F., Newhall, Los Angeles	26-	4-17	2,540	sd. sh. drlg.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles	8-	4-17	1,098	cleaning out
General Pet., No. 1 Flint, Wilmington, Los Angeles	33-	4-13	4,860	sd. sh. drlg.
General Pet., No. 1 Harbor, Wilmington, L. A.	2-	5-13	4,060	O.S. drlg.
General Pet., No. 20 Harbor, Wilmington, L. A.	2-	5-13	2,509	sd. sh. drlg.
General Pet., No. 41 Harbor, Wilmington, L. A.	2-	5-13	3,045	rig to pump
Allied Pet. Corp., No. 29 Harbor, Wilmington, L. A.	2-	5-13	2,485	sd. sh. drlg.
Bankline Oil, No. 11-U.P., Wilmington, Los Angeles	2-	5-13	2,681	redrlg. 2,575
Hollywood Oil, No. 4 Baxter, Wilmington, L. A.	35-	4-13	2,950	sd. sh. drlg.
Ind. Drlg., No. 1 Vosper, Wilmington, Los Angeles	2-	5-13	4,018	sd. sh. drlg.
Richfield Oil, No. 12-P.D., Wilmington, Los Angeles	2-	5-13	2,670	sd. sh. drlg.
Richfield Oil, No. 13-P.D., Wilmington, Los Angeles	2-	5-13	2,676	sd. sh. drlg.
Richfield Oil, No. 14-P.D., Wilmington, Los Angeles	2-	5-13	2,184	sd. sh. drlg.
Richfield Oil, No. 17-P.D., Wilmington, Los Angeles	2-	5-13	3,022	O.S. drlg.
Richfield Oil, No. 3 P. & G., Wilmington, Los Angeles	2-	5-13	3,950	flow 635 b.d.
Superior Oil, No. 1 School, Wilmington, Los Angeles	2-	5-13	3,756	O.S. drlg.
So. Cal. Pet., No. 1-W, Wilmington, Los Angeles	33-	4-13	5,700	flow 691 b.d.
Union Pacific R.R., No. 82, Wilmington, Los Angeles	4-	5-13	3,527	flow 507 b.d.
Union Pacific R.R., No. 1, Wilmington, Los Angeles	4-	5-13	4,042	O.S. drlg.
Union Pacific R.R., No. 2, Wilmington, Los Angeles	3-	5-13	2,660	sd. sh. drlg.
Union Pacific R.R., No. A, Wilmington, Los Angeles	3-	5-13	2,147	sd. sh. drlg.
Union Pacific R.R., No. 10-E, Wilmington, L. A.	3-	5-13	1,987	sd. sh. drlg.
Hogan Pet., No. 1 Burkhart, San Pedro, Los Angeles	7-	5-13	2,381	sd. sh. drlg.
St. Helens Pet., No. 28 Monterey, Montebello, L. A.	2-	2-12	6,290	recmtd. 6,290
St. Helens Pet., No. 29 Monterey, Montebello, L. A.	2-	2-12	5,598	hd. sd. drlg.
St. Helens Pet., No. 2 Taylor, Montebello, Los Angeles	2-	2-12	4,381	sd. sh. drlg.
Union Oil, No. 1 Howard, Montebello, Los Angeles	2-	2-12	6,244	completing
Union Oil, No. 3 Howard & Smith, Montebello, L. A.	2-	2-12	6,383	sd. sh. drlg.
V-8 Oil, No. 1 Estelle, Montebello, Los Angeles	2-	2-12	6,410	flow 715 b.d.
Mon. Wesco, Inc., No. 1 Seavers, Montebello, L. A.	2-	2-12	6,227	O.S. drlg.
Pongratz Pet., No. 1 Martin, Montebello, Los Angeles	2-	2-12	4,396	sd. sh. drlg.
Standard Oil, No. 3 Harvey, Montebello, Los Angeles	2-	2-12	6,200	sd. sh. drlg.
Standard Oil, No. 3 Braun, Montebello, Los Angeles	2-	2-12	6,197	sd. sh. drlg.
Standard Oil, No. 1 Kaufman, Montebello, L. A.	2-	2-12	4,292	sd. sh. drlg.
Mont. Res. Oil, No. 1 M.L.&W., Montebello, L. A.	2-	2-12	4,666	sd. sh. drlg.
Hathaway Oil, No. 1 Dore, Montebello, Los Angeles	2-	2-12	4,598	sd. sh. drlg.
Herley-Kelly, Inc., No. 1 Masser, Montebello, L. A.	2-	2-12	6,258	sd. sh. drlg.
Brit. American Oil, No. 1 Pico, Los Angeles	12-	2-12	5,287	sd. sh. drlg.
Security L. & W., No. 1 Tobey, Whittier, Los Angeles	8-	2-11	2,414	idle
Texas Co., No. 2-3 Foster, Long Beach, Los Angeles	19-	4-12	5,000	redrlg. 2,945
De Soto Oil, No. 1 Signal, Long Beach, Los Angeles	30-	4-12	7,552	fish D.P.
Texas Co., No. 3 Alamitos, Seal Beach, Orange	3-	5-12	5,225	pump water
Battersby, J. M., No. 1 Carmenita, Orange	21-	3-11	8,332	cmtd. 7,475
D. H. B. Oil, No. 1, Buena Park, Orange	34-	3-11	5,189	sd. sh. drlg.
Standard Oil, No. 3 Bastanchury, W. Coyote, Orange	16-	3-10	5,760	sd. sh. drlg.
Shell Oil, No. 1 Kiker, Richfield, Orange	21-	3- 9	2,692	sd. sh. drlg.
A. V. Oil, No. 1 Newport, Costa Mesa, Orange	16-	6-10	4,660	cleaning out
So. Counties Oil, No. 1 Serrano, San Bernardino	22-	2- 8	1,300	sd. sh. drlg.
Dauphin Dev., No. 1 Irwin, Ponto, San Diego	16-12-	4	452	sd. sh. drlg.

OKLAHOMA

Week Ending October 1

NORTHERN OKLAHOMA

Beckham County

Wagner & Stogner No. 1 McGee, NE NE SE sec. 25-8-22w. O.W.D.D.; T.D. 1,029 ft.; est. 5,000,000 ft. gas; S.I.

Caddo County

Texas Co. No. 1 Smith, C NE NW Sec. 2-5-12w. Drlg. 1,935 ft.

Cleveland County

Big Chief and Gulf No. 1 Stratiger, NW NW SW Sec. 25-9-2w. Drlg. 3,340 ft.

Coal County

Carter et al No. 1 Mote, C E½ SW NW Sec. 19-2-10. Dense 7,205 ft.; drlg. 7,299 ft.

Comanche County

E. N. Eldridge No. 1 Aetna Life, SW SE SW Sec. 2-1-10w. U.R. 1,060 ft.

Midnite O. & G. Co. No. 1 Howe, NW NW NW Sec. 20-2n-13w. T.D. 550 ft.; S.D.

Garfield County

Champlin Ref. Co. No. 1 Boehm, SW SW NE Sec. 4-24-8w. Viola 6,595 ft.; dolo. 6,625 ft.; 1st Wilcox 6,658 ft.; dry; 2nd Wilcox 6,690 ft.; F. est. 20 B.O.P.H. and 7,000,000 ft. gas; grav. 44.5.

I.T.I.O. No. 1 Kitchin, C SE SE Sec. 17-22-5w. Miss. 6,113 ft.; Chat 6,625 ft.; Hunton 6,661 ft.; dolo. 6,824 ft.; 1st Wilcox 6,878-90 ft.; drlg. ahead.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE Sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Grady County

Carter Oil Co. et al No. 1 Smith C-58, C SE SW Sec. 26-5-8w. S.O. 3,203 ft.; drlg. sh.&sd. 3,574 ft.

Hughes County

City of Holdenville No. 1 Fairgrounds, SE SE SE Sec. 13-7-8. S.D. at 1,200 ft.

F. W. Cooper No. 1 Samuel, NW SE NW Sec. 19-16-8. Viola 4,118 ft.; dolo. 4,211 ft.; Wilcox 4,252 ft.; T.D. 4,259 ft.; D.&A.

Homer Doup et al No. 1 Bond, NE NE SW Sec. 7-7-9. Drlg. 1,915 ft.

Phillips Pet. Co. No. 1 Beeker, NE NW SW Sec. 8-5-10. T.D. 6,283 ft.; P.B. 5,632 ft.; acd. and swb. 64 B.W. and no oil in 15½ hrs.; to D.D.

Kay County

Louis Blosser No. 1 Rudolph, NE NE SW Sec. 27-29-1w. T.D. 3,536 ft.; S.D. for heavy tools.

Crawford No. 1 Boehl, SE SE NW Sec. 34-27-2w. C.O. at 420 ft.

E. W. Hamilton No. 1 Riddle, NW cor. Sec. 3-26-4. Drlg. 480 ft.

Tide Water Oil Co. No. 1 Hockman, NW NW NE Sec. 19-28-1. Drlg. 681 ft.

Kingfisher County

Burton Pet. Corp. No. 1 Zerger, C SE SW Sec. 5-18-6w. Drlg. 3,500 ft.

Kiowa County

R. L. Emerson No. 1 Handcock, SE SE NE Sec. 26-6-15w. S.D. 380 ft.

Hughes & Reese No. 1 Fultz, SE SE SE Sec. 10-6-18w. T.D. 1,238 ft.; W.O.C.

Lincoln County

Ok-Texas No. 1 Black, SE cor. Sec. 31-16-6. T.D. 3,903 ft.; lost circ.; cmtd. back to 3,882 ft.; W.O.C.

Muskogee County

Garrett No. 1 Fuel, SW SW SW Sec. 22-14-18. Drlg. 1,380 ft.

Noble County

H. R. Hollenbach No. 1 Mathews, C SW NW Sec. 9-20-1. Miss. 4,750 ft.; drlg. 4,849 ft.

Pittsburg County

Supreme Oil Corp. No. 1 Hickey, NW SW NW Sec. 4-2-15. T.D. 1,040 ft.; S.D.

Supreme Oil Corp. No. 1 Stevenson, SW SW SE Sec. 27-3-14. T.D. 1,300 ft.; M.I. rotary.

Pontotoc County

Jack Lynch et al No. 1-A Parker, SW SW SE Sec. 17-4-8. T.D. 4,572 ft.; P.B. 4,490 ft.; rip in csg.; P.B. 4,090 ft., S.D.

H. Z. Moore No. 1 Payne, SE NW SE Sec. 16-4-4. T.D. 997 ft.; S.S.O.; S.D.

Union Dev. Co. No. 1-A Abbott, SW NW NE sec. 34-3-6. T.D. 2,013 ft.; S.D.

Pottawatomie County

Hall & Briscoe No. 1 Merkle, NW NW SE Sec. 32-8-5. S.D.; rep. at 3,889 ft.

Geo. L. Pace No. 1 Riley, NE NE SE Sec. 2-9-3. Woodford 4,925 ft.; drlg. 5,119 ft.

Summit Drlg. Co. No. 1 Good, C W½ NW SW Sec. 4-11-5. Wilcox 4,930 ft.; 2nd 4,964-75 ft., T.D.; D.&A.

Seminole County

Patterson No. 1 Konawa City Park, NW SE NE Sec. 19-6-8. T.D. 2,712 ft.; D.&A.

Rogers & Rogers No. 1 Robinson, SW SW SE Sec. 36-8-7. T.D. 3,138 ft.; swb. 152 B.O. in 36 hrs.; shot and swb. 40 B.O. in 18 hrs.; shot and C.O. at 3,140 ft.

J. F. Smith No. 1 Wolfe, NE NE SW Sec. 36-7-5. W.O.C. at 125 ft.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 6,510 ft.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,172 ft.; U.R.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW Sec. 2-4s-10e. Arb. 2,843 ft.; S.D. 3,455 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. Drlg. 1,015 ft.

Cotton County

Jim Turner et al No. 4 Collins, NE SE NE Sec. 18-4s-10w. Drlg. 600 ft.

Love County

Sinclair Prairie Oil Co. No. 1 Peabody, NE cor. Sec. 35-6s-2w. Drlg. sh. 8,185 ft.

Stephens County

M. J. Mitchell No. 1 Westfall, SE cor. Sec. 33-2-4w. T.D. 100 ft.; S.D.

Tillman County

Smith No. 2 Hammel, NE NW NW sec. 6-5s-15w. T.D. 2,380 ft.; fsg. D.P.

KANSAS

Week Ending October 1 (Descriptions are East Unless marked otherwise)

Barton County

C. L. Carlock and Atlantic Ref. Co. No. 1 Demel, NE NW Sec. 30-17-13w. Rng. csg. 2,767 ft.

Continental and Sinclair-Prairie No. 1 Pichner, SE NW Sec. 23-16-11w. Drlg. 2,930 ft.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. Rng. csg. 2,195 ft.

I. W. Murfin No. 1 Birzer, NE SW Sec. 21-19-11w. S.D. 575 ft.

Butler County

Pryor & Lockhart No. 1 Lietzke, NE SW NW Sec. 24-28-7. T.D. 2,770 ft.; P.B. 2,767 ft.; acd. and est. 50 B.O.P. D.; comp.

Fred Phillips No. 1 Hanshaw, NE NE SE Sec. 32-27-3. C.O. at 1,911 ft.

Soloman & Alexander No. 1 Sawyer, SW NW SW Sec. 2-28-7. S.D. 175 ft.

Cowley County

Barnsdall Oil Co. No. 1 Elliott, NE cor. Sec. 5-31-5. U.R. at 2,158 ft.

Ben Gralapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. Drlg. 3,100 ft.

Ben Gralapp and Continental No. 1 Community, NW Sec. 23-32-5. Drlg. 1,280 ft.

Ellsworth County

Continental Oil Co. No. 1 Gray, SW SE SE Sec. 26-17-8w. Rng. csg. 290 ft.

Finney County

Atlantic Ref. Co. No. 1 Nann O.W.D.D., C SE NE Sec. 21-21-34w. O.T.D. 4,658 ft.; drlg. 4,672 ft.

Graham County

Duwe & Farris and Atlantic Ref. Co. No. 1 Parker, C SE SW Sec. 29-6s-23w Simp. 4,146 ft.; Arb. 4,176 ft.; T.D. 4,206 ft.; D.&A.

Greenwood County

Z. Dunlap et al No. 1 Warren, NW NW SW Sec. 4-28-10. S.D. 2,000 ft.

Harvey County

Lanahan Drlg. No. 1 Lagree, SE SE Sec. 4-23-3w. T.D. 280 ft.; S.D.

Kingman County

Bunte Bros. No. 1 Shepard, SE SE SE Sec. 10-27-10w. T.D. 4,529 ft.; P.B. 4,086 ft.; swbg. 4 B.O.P.H.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW Sec. 7-19-2w. Drlg. 2,605 ft.

Western Kans. O. & R. Co. No. 1 Union, NW NE SW Sec. 18-17-1w. Drlg. 350 ft.

Marion County

Johnson et al No. 1-A Miltz, SW SW SW Sec. 24-17-4. T.D. 2,275 ft.; S.D.

Mead County

Cragin, Reeuscher & Turner No. 1 Adams, NW NW SE Sec. 22-34-30w. T.D. 200 ft.; R.U.R.
Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,350 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Rng. csg. 2,427 ft.; H. F.W.

Pottawatomie County

J. A. Turner No. 1 Unshide, C NE NW Sec. 32-8-9. T.D. 1,150 ft.; S.D.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Fsg. 4,857 ft.

Reno County

A. Scherzer No. 1 Krey, SE SW Sec. 19-23-10w. M.I.M.

Rice County

Glimac Oil Co. No. 1 Malone, SE SW NW Sec. 36-20-10w. Drlg. 1,635 ft.
Watchorn O. & G. Co. No. 1 Caldwell, NE SE NE Sec. 29-20-9w. Arb. 3,280-90 ft., T.D.; W.I.H.; P.B. 3,248 ft.; S. S.O.&W.; D.&A.

Rooks County

Shindheim & Haynes et al No. 1 Dorr, SE SW Sec. 13-9s-16w. T.D. 3,613 ft.; PB. 3,350 ft.; acd. and swb. 2 B.O. and 4 B.W.P.H.

Russell County

Yankey & Stearnes No. 1 Krog, NW SE NW Sec. 7-15-13w. Drlg. 280 ft.

Saline County

Sullivan & Sidwell No. 1 Erickson, NE NE Sec. 28-16-3w. S.D. 1,800 ft.

Sedgwick County

D. M. Crowe No. 1 Murphy, SW SE Sec. 34-29-1w. Rng. csg. 1,725 ft.
Frank Hudson et al No. 1 Fulton, NE SE Sec. 35-28-1e. S.D. 2,355 ft.

Stafford County

Atlantic Ref. Co. No. 1 Wise, NW cor. Sec. 13-24-14w. Simp. 4,121 ft.; Arb. 4,173 ft.; P.B. 4,131 ft.; shot; swb. 4 B.O.P.D., 20% wtr.
Stanolind O. & G. Co. No. 1 Curtis, SE cor. Sec. 31-21-12w. Viola 3,544 ft.; Arb. 3,638 ft.; R.U.S.T. 3,640 ft.

Sumner County

Cameron & Spencer No. 1 Frey, NW cor. Sec. 5-30-1e. S.D. 90 ft.
Vickers Pet. Co. No. 1 Blue, CWL NW NW Sec. 1-33-2w. Drlg. 2,383 ft.

Thomas County

Ramsey Pet. Co. and John Mabee No. 1 Ryan, C NE SE Sec. 27-8-32w. Drlg. 4,950 ft.

Wabaunsee County

Fowler & Tague et al No. 1 Aye, NW SW NW Sec. 10-12-8. S.D. 300 ft.

Woodson County

Fleming et al No. 1 Central Life, SW SW SW Sec. 27-24-15. T.D. 1,560 ft.; S.G. at 1,500 ft.
M. J. Trott No. 1 Abbott, NW NE NE Sec. 21-25-14e. Drlg. 1,325 ft.

ARKANSAS

Calhoun County

Samuel S. Alexander No. 1 Smythe, C NE NE Sec. 7-11-14. Drlg. 1,067 ft.
C. E. Murdock No. 1 Southern Kraft Corp., SE cor. NW NW sec. 17-14-13. Top Nac. 2,371 ft.; drlg. ch. rk. 2,770 ft.

Columbia County

Atlantic Ref. Co. No. 1 Garrett, C NW SW Sec. 13-17-20. Drlg. 1,413 ft.
Standard Oil Co. of La. No. 1 T. Crumpler, Sec. 15-17-19. Set retainer and wsg. out cmt 7,135 ft.; T.D. L. 7,500 ft.
Standard Oil Co. of La. No. 2 J. L. Warren, Sec. 18-16-22. Top Buckner 6,975 ft.; 6-in. csg. 7,218 ft.; comp.; 8¼ B. P.H.; ¼-in. ck.; 20% asphaltic emulsion; T.D. 7,255 ft.
Tide Water Seaboard No. 1 Beene, C SE NW Sec. 15-18-19. Top ch. rk. 2,283 ft.; set 13⅜-in. 2,541 ft.; T.D. 2,586 ft.
G. H. Vaughn No. 2 Garrett, C SE SE Sec. 14-17-20. Top anhy. 3,150 ft.; drlg. sh.&anhy. 3,947 ft.

Craighead County

Tannark, Inc., No. 1 Ruby M. Martin, 580 ft. N line, 80 ft. E line, sec. 35-14n-3e. M.I.C.T. 1,754 ft.

Little River County

Barbee et al No. 1 Ada Mills, SE cor. SW NW Sec. 18-12-29. R.U.
Clark et all No. 1 Strawn, SW cor. SE Sec. 20-10-32. 10-in. csg. 63 ft.
Hartford Oil Corp. No. 1 Pinning, C NE NE SW Sec. 6-13-30. Drlg. 1,520 ft.
Fred U. T. Smith No. 1 Waldrop, SE cor. NW Sec. 4-13-31. Drlg. 400 ft.
Joe G. Strahan et al No. 2 Dierks Lbr. Co. Top L. 2,425 ft.; S.D. 3,354 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson Townsite, Sec. 18-4n-9w. Set 4½-in. csg. on pkr. 1,540 ft.; S.D. 2,330 ft.
J. W. Eddington No. 1 Anderson. Drlg. sd. 900 ft.
Lonoke Prairie Dev. Co. No. 1 T. Young, C NW NW Sec. 8-3n-7w. Set 10-in. csg. 150 ft.; S.D. 225 ft.
J. F. Russell No. 1 J. T. Gunter, SE cor. Sec. 17-5-10. S.D. 1,620 ft.

Miller County—Rodessa

Chamblee & Pitts No. 1 H. C. Mitchell, 330 ft. SE cor. E½ SW SE Sec. 2-20-5. Comp.; 19 B.P.H.; 15/64-in. ck.; T.P. 500 lbs.; C.P. 1,100 lbs.; 5½-in. csg. 6,151 ft.; T.D. 6,185 ft.
Gerhig Co. No. 3 Mitchell, SW cor. SW SE Sec. 2-20-28. Drlg. anhy.&sh. 5,783 ft.
Red River Valley Oil Co. No. 1 Beck, Sec. 34-15-26. T.D. 3,008 ft.; reperf. 2,788-2,808 ft.; reset pkr. 2,954 ft.; recmtd.; perf. to cut off S.W. 3,006 ft.

Mississippi County

Benedum & Trees Oil Co. No. 1 Mack, 330 ft. SW cor. NW SW Sec. 2-15n-12e. Top Nac. 2,160 ft.; drlg. sdy. sh. 2,845 ft.

Nevada County

O. F. Whittaker No. 1 Edwards, Sec. 3-15-20. Drlg. ch. rk. 1,400 ft.

Pulaski County

A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW Sec. 2-1s-13e. S.D. 3,550 ft.

Union County—Schuler

Atlantic Ref. Co. No. 2 Dumas, SE cor. NE NW Sec. 21-18-17. Top Jones sd. 7,608 ft.; set 7-in. csg. 7,642 ft.; T.D. 7,644 ft.; comp.; 532 B.P.D.; heading on cks. from ⅝-in. to ¾-in.; T.P. 250 lbs.; C.P. 725 lbs.
Crescent Drlg. Co. No. 1 Sewell, SW cor. NE NE Sec. 12-18-18. Set 13⅜-in. csg. 116 ft.; drlg. rd. sdy. sh. 7,070 ft.
Delta Drlg. Co. No. 1 Powledge, SW cor. NW NW Sec. 21-18-17. Drlg. rd. &gr. sh. 5,051 ft.
Fohs Oil Co. No. 1 Craig, C SE NE Sec. 5-18-14. R.U.
E. M. Jones No. 1-B Murphy Ld. Co., Sec. 13-18-18. O.W.W.O.; old T.D. 5,987 ft.; top Jones sd. 7,510 ft.; top L. 7,609 ft.; cg. ahead 7,618 ft.
E. M. Jones No. 2-B Murphy Ld. Co., SW cor. S½ NE NE Sec. 13-18-18. Set 10-in. csg. 2,129 ft.
Lion Oil Ref. Co. No. 2 Clarence, Lot 1, SW Sec. 7-18-17. Top Jones sd. 7,617 ft.; T.D. 7,700 ft.; 7-in. 7,690 ft.; perf. 7,620-34 ft.; comp.; 270 B.P.D.; 20/64-in. ck.; T.P. 630 lbs.; C.P. 945 lbs.
Lion Oil Ref. Co. No. 2 Dee, SW cor. SE NW Sec. 17-18-17. Top Jones sd. 7,560 ft.; T.D. 7,640 ft.; set 7-in. csg. 7,629 ft.; comp.; 20 B.P.H.; 12/64-in. ck.; T.P. 475 lbs.; C.P. 1,475 lbs.
Lion Oil Ref. Co. No. 8 Hardy Murphy, C NE NW Sec. 9-16-15. Straightening hole 2,350 ft.
Lion Oil Ref. Co. No. 1 Henry, SE cor. Sec. 12-18-18. Drlg. rd.&gr. sh. 5,637 ft.
Lion Oil Ref. Co. No. 5 Marcus, Sec. 18-18-17. Set 16-in. csg. 113 ft.; W.O.C.
Lion Oil Ref. No. 4 Marine, NE cor. SE SE Sec. 17-18-17. Top Jones sd. 7,560 ft.; cg. 7,594 ft.
Lion Oil Ref. Co. No. 5 Marine, SE cor. NE SE Sec. 17-18-17. Drlg. rd. sdy. sh. 6,940 ft.
Lion Oil Ref. Co. No. 6 Mayfield, NW cor. Lot 3, NW Sec. 18-18-17. Drlg. 4,440 ft.
Lion Oil Ref. No. 6-A Morgan, SE cor. Lot 1, SW Sec. 18-18-17. Top Jones sd. 7,504 ft.; top L. 7,608 ft.; set 7-in. csg. 7,661 ft.; perf. 7,550-70 ft.; rng. tbg. to test.
Lion Oil Ref. Co. No. 3 Nelson, C S½, Lot 6, SW Sec. 18-18-17. R.U.
Lion Oil Ref. Co. No. 1 Powledge, SE cor., Lot 2, SW Sec. 7-18-17. Drlg. rd. &gr. sh. 5,915 ft.
Lion Oil Ref. Co. No. 2 Sewell, NE cor. Sec. 13-18-18. Drlg. rd.&gr. sh. 4,122 ft.
Marine Oil Co. No. 2 J. H. Calloway, NW cor. E½ SE NE Sec. 13-18-18. Set 16-in. csg. 142 ft.; drld. to 7,187 ft.; rmg. by junk at 6,298 ft.
Phillips Pet. Co. No. 1-B Bryan, NW cor. NE SE Sec. 13-18-18. Drlg. rd.& gr. sh. 6,690 ft.
Phillips Pet. Co. No. 1 El Dorado Bnk., SW cor. NW SE Sec. 12-18-18. 10¾-in. csg. 1,717 ft.; drlg. rd.&gr. sh. 6,031 ft.
Phillips Pet. Co. No. 1 Edwards, SW NE Sec. 17-18-17. Drlg. 2,918 ft.
Phillips Pet. Co. No. 2 Gan, NE cor. SE NE Sec. 18-18-17. Top Jones sd. 7,547 ft.; T.D. 7,700 ft.; 7-in. csg. 7,700 ft.
Phillips Pet. Co. No. 2 Goodwin, Lot 1, NE Sec. 19-18-17. Drlg. rd.&gr. sh. 5,333 ft.
Phillips Pet. Co. No. 1 Milling, SE cor. SW Sec. 7-18-17. Drlg. rd.&gr. sh. 5,199 ft.
Phillips Pet. Co. No. 1 Murphy, Lot 2, NW Sec. 19-18-17. Drlg. 2,874 ft.
Phillips Pet. Co. No. 1 Nelson, Lot 3, NW Sec. 19-18-17. Drlg. 2,230 ft.
Phillips Pet. Co. No. 2 Sewell, Lot 3 SW Sec. 7-18-17. Top Jones sd. 7,611 ft.; cg. 7,617 ft.
Phillips Pet. Co. No. 3 Sewell, Lot 5 SW Sec. 7-18-17. Top Jones sd. 7,577 ft.; cg. 7,596 ft.
Phillips Pet. Co. No. 4 Sewell, Lot 4, SW Sec. 7-18-17. Top Jones sd. 7,527 ft.; drlg. 7,621 ft.
Phillips Pet. Co. No. 5 Sewell, NW cor. Lot 5, SW Sec. 7-18-17. R.U.
Roberts & Murphy No. 2 Leona, NW cor. Lot 6, SW Sec. 7-18-17. Top Jones sd. 7,586 ft.; top L. 7,683 ft.; T.D. 7,780 ft.; set 7-in. csg. 7,774 ft.; perf. 7,610-36 ft.; comp.; 680 B.P.D.; 24/64-in. ck.; T.P. 600 lbs.; C.P. 625 lbs.

Union County—Other

J. R. Lockhart No. 1 Raulston, Sec. 12-17-14. Cd. oil sd. 3,160-75 ft.; D.S.T. 3,172-75 ft.; rec. drlg. fluid and S.W.; cd. 3,175-85 ft.; S.O.; salty taste; set 7-in. csg. 3,077 ft.; perf. 3,002-07 ft.; tstd. 2,750 ft. S.W.; reperf. 2,967-73 ft.; blew wild; est. 500 bbls. S.W.; P.B. 2,700 ft.; drld. out cmt. 2,980 ft.; perf. 2,968-76 ft.; set pkr. 2,960 ft.; tstd. 1,500,000 ft. gas; S.D. 2,980 ft.
J. R. Lockhart No. 2 Raulston, NE cor. SE Sec. 12-17-14. Cd. 6 ft. sat. sd. 2,985-96 ft.; D.S.T. 2,976-96 ft.; tstd. hole full oil and 40 ft. mud in 18 min.; W.P. 90 lbs.; set 7-in. csg. 2,975 ft.; tstg.; T.D. 2,996 ft.; comp.; 22 B. P.H.; 20/64-in. ck.; set pkr. on tbg. 2,905 ft.; flwd. 34 B.P.H.; ½-in. ck.; T.P. 420 lbs.; est. 500,000 ft. gas.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark.-La. Gas Co. No. 1-B Davis Bros. Lbr. Co., NW SW Sec. 7-16-4. Drlg. ch. rk. 2,550 ft.
Desoto O. & G. Co. No. 1 Fleming, C NW NW Sec. 18-16-9. T.D. 5,525 ft.; 7-in. csg. 5,390 ft.; comp.; 40,000,000 ft. gas; open flow; perf. in Pettit L.
Producers O. & G. Co. No. 1 Graves & Thomas, SE cor. SW SE Sec. 23-15-10. Set 13⅜-in. 180 ft.

Bossier Parish

W. M. Chambers No. 1 Thomas, SE cor. Sec. 10-22-11. Fsg. D.S. 2,573 ft.
Premier inv. Co. No. 3 Buckelew, SE cor. NE Sec. 16-19-11. Set 6⅝-in. csg. 351 ft.; comp.; pmpg. 12 B.P.D.; T.D. 417 ft.
Premier Inv. Co. No. 4 Buckelew, SE cor. NE NE Sec. 16-19-11. Set 8¼-in. csg. 82 ft.; T.D. 310 ft.
J. B. Stovall et al No. 3 Ark. Fuel Oil Co. fee, NE SE Sec. 15-19-11. 6-in. csg. 362 ft.; W.O.C.
Triangle Drlg. Co. No. 2 Roy, C NW SW Sec. 18-17-11. Por. L. 3,118 ft.; set 5½-in. csg. 3,119 ft.; T.D. 3,144 ft. tstg.

Caddo Parish

R. E. Allison No. 2 Ellerbee, 708 ft. E line, 1,992 ft. N line, Sec. 28-18-14. Base ch. rk. 1,750 ft.; 9⅝-in. csg. 2,059 ft.; cd. por. oolitic L. 4,804-42 ft.; S.G.; drlg. sh.&L. 5,489 ft.
R. E. Allison No. 1 State, SE cor. Sec. 28-18-14. Drlg. sh. 3,226 ft.
F. W. Burford No. 2 Brown, C SE SE Sec. 5-23-15. Set 5½-in. csg. 6,068 ft.; T.D. 6,087 ft.; comp.; 322 B.P.D.; ½-in. ck.; 500 lbs. input gas through tbg.; used 3,000 gal. acd.
R. L. Bauman No. 1 Slattery Est., 660 ft. NW cor. Sec. 35-18-14. Set 13⅜-in. csg. 300 ft.; set 9⅝-in. csg. 2,053 ft.; gas sd. at 2,550 ft. blew out; rng. wild with D.S. in hole; made wtr.; sd. est. 10,000,000 ft. gas; S.I.; D.S. stk. 2,550 ft.; fsg.
Carney et al No. 1 Hart; O.W.W.O. Old T.D. 2,372 ft.; C.O. and arng. set 6-in. csg. 1,495 ft.; tstg. 1,860 ft.
S. H. Cassidy No. 1 Caddo Lve. Bd. Tstd. S.W. 1,661 ft.; W.O.S.R.
W. D. Chew No. 5 Stiles, SW cor. Sec. 27-21-16. 4½-in. csg. 1,800 ft.; tstd. S.W. 1,968 ft.; P.B. 1,908 ft.; O.T.D. 1,968 ft.
W. D. Chew No. 6 Stiles, SW NE Sec. 28-21-16. Set 6-in. csg. 1,945 ft.; T.D. 1,954 ft.
Paul Cooper et al No. 1 Stiles, SE cor. NE NW Sec. 33-21-16. Tstd. dry; W.O.; T.D. 1,962 ft.
Paul Cooper No. 2 Stiles, SW SE Sec. 28-21-16. R.U.
Tony DeGrazier No. 1 Welsh, NE cor. Sec. 3-20-16. 7-in. csg. 925 ft.; tstd. S.W.; S.O. 968 ft.; S.D.
Falcon Oil Co. No. 2 Glassell-Youree, SE cor. Sec. 26-20-15. Tstd. dry; S.O.&S. W.; will acd.; T.D. 2,306 ft.; W.O.S.R.
M. M. Ferrell No. 1 Dyer. Sec. 10-20-16. Set 6-in. csg. 1,008 ft.; tstd. S.W.; W.O. 1,010 ft.
C. G. Gibbons No. 1 Helpman, SW cor. Sec. 16-21-16. 8-in. 990 ft.; T.D. 1,008 ft.; comp.; pmpg. 25 B.P.D.
Hillman et al No. 1 Gilbert, SW cor. Sec. 18-20-15. Drlg. sh. 1,455 ft.
Hollywood Oil Corp. No. 1 C.&B. Realty Co., C NE NE Sec. 22-17-14. Drlg. ch. rk. 1,690 ft.
J. T. Humphrey No. 2 Caddo Lve. Bd. Sec. 26-21-16. Tstd. S.W. 1,011 ft.; P. B. 968 ft.; comp.; pmp. 45 B.O.P.D.; T.D. 968 ft.
W. C. Knox No. 1 Burton, NW cor. Sec. 7-20-15. S.D. 150 ft.
C. D. Lee No. 1 Meyer, SE cor. Sec. 33-18-14. Set 13⅜-in. csg. 350 ft.
E. W. McGoldrick No. 9 Muslow, cor. Sec. 32-21-15. Comp.; pmp. 10 B. P.D.; T.D. 1,567 ft.
Manziel et al No. 1 Muslow, NE cor. NW SW Sec. 6-20-15. 7-in. csg. 1,350 ft.; W.O.C.
F. W. Martin and Superior Oil Corp No. 1 Querbes, Sec. 8, Reg. Sec. 20-17-13. Set 9⅝-in. csg. 1,252 ft.; drld. to 6,135 ft.; ran Schlumb.
Midfield Oil Co. No. 1 Ramsey, NE cor. Sec. 32-21-15. Set 7-in. csg. 1,370 ft.; T.D. 1,388 ft.
J. Ober & Sons No. 1 fee, SE cor. Sec. 36-21-16. Set 8-in. csg. 1,431 ft.; tstd. dry 1,684 ft.; S.D. 1,760 ft.
Oils, Inc., No. 1 Cazaux, sec. 10-16-13. S.D.; contract depth, 3,500 ft.
Papadokis & Poppas No. 4 Spell, SE cor. Sec. 28-21-15. Set 7-in. csg. 1,380 ft.; W.O.S.R. 1,655 ft.
Rodessa O. & R. Co. No. 1 Chandler, C SW NE Sec. 34-18-14. R.U.
J. E. Sedberry No. 1-A Dickinson, SW cor. Sec. 10-19-14. S.D. 2,410 ft.
Harry Smith No. 1 Sproull, SE cor. Sec. 32-20-16. R.U.
Southern Star Pet. Corp. No. 1 Muslow, SE NW Sec. 17-20-15. Pmpd. S.W.; arng. dpn. 1,860 ft.
Southern Star Pet. Corp. No. 2 Muslow, NE cor. SE NW Sec. 17-20-15. Tstd. S.W.; S.O. 2,198 ft.

Catahoula Parish

Sibley Sabine Oil Co. No. 1 Peck, S½ Sec. 36-10-8e. S.D. sh. 2,008 ft.

Claiborne Parish

Maritzky & Bibby No. 1 McClung, Sec. 29-21-7. S.D.; rep. rig 1,425 ft.
E. T. Oakes et al No. 2 Kilgore, C NW SE Sec. 28-21-5. R.U.

Concordia Parish

Benedum & McCormick No. 1 Allen, 330 ft. NE cor. Sec. 35-5n-8e. D.&A.; S.W. sd. 6,005 ft.
Morrison & Co. No. 1 Winston, Sec. 43-7-9e. Top Wilcox 4,120 ft.; cd. S.W. sd.; W.O. 4,200 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 6-12-16. Drlg. sh.&L. 2,565 ft.
G. H. Collins et al No. 2 Joiner, Sec. 28-11-12. Tstd. S.W. 3,001 ft.; P.B. 2,978 ft. and tstd. S.W.; W.O.
A. L. Sutton No. 1 Frost Lbr. Co., C NE SE Sec. 35-11-15. R.U. and S.D.

Grant Parish

C. R. Bowers No. 1 Harrison Est., Sec. 21-8-5. Drlg. sh.&bldrs. 2,440 ft.

Madison Parish

Continental Oil Co. No. 1 Singer Mfg. Co., C NE NW Sec. 3-15-11e. Top anhy. 4,003 ft.; T.D. rk salt 4,334 ft.; D.&A.

Red River Parish

J. M. Forgetson No. 1 Marston, SE SE Sec. 30-14-10. S.D. fuel 958 ft.
J. F. Lent No. 1 Chicago Coal & Ld. Co., SE cor. Sec. 17-13-11. S.D. 2,850 ft.
J. C. Prine No. 3 Haynes, SW cor. Sec. 20-13-10. Tstd. dry; arng. deepen 1,413 ft.
H. D. Rogers No. 3 Long Bell Lbr. Co., NE cor. NW Sec. 30-13-19. 4½-in. csg. 1,492 ft.

Sabine Parish

Addison & Peterson No. 1 Dew, SE cor. SW SE Sec. 22-8-11. Drlg. ch. rk. 2,530 ft.
W. D. Ambrose No. 1 Sabine, SW cor. SE Sec. 33-8-13. Drlg. sh. 1,300 ft.
A. B. House No. 1 Sabine, NW NW Sec. 23-7-14. 8-in. csg. 2,134 ft.; used 7,000 gal. acd.; tstd. dry; arng. deepen 2,404 ft.
Hunter Co. No. 7 Bowman-Hicks, C NW NW Sec. 13-7-13. 6-in. csg. 2,121 ft.; 5,000 gal. acd.; tstd. 300 ft. O.I.H.; used 3,000 gal acd.; comp.; pmp. 75 B.P.D.; T.D. 2,544 ft.
LeGrande & Brown No. 1 Tatum, NE cor. NW NE Sec. 17-8-13. Tstg. 2,130 ft.
W. L. McClanahan No. 1 Frost Lbr. Co., Sec. 22-9-13. D.S.T. 2,927-3,028 ft.; tstd. est. 1,000,000 ft. gas and 9 jts. mud; ¼-in. ck.; blew out 4,745 ft.; S.W., mud and gas; cd. hd. sh.&L. 4,745-54 ft.; tstd. S.O. and used 3,000 gal. acd.; reacd. with 3,000 gal. 1,616 ft.; W.O. S.R.
Major Oil Co. No. 1-B Bowman-Hicks, C NW SW Sec. 8-7-12. Drlg. sh. 1,410 ft.
Major Oil Co. No. 1 Loring, C SE NW Sec. 21-7-13. Top clk. 2,265 ft.; arng. acd. with 8,000 gal.; 8-in. csg. at 2,272 ft.; D.&A. 2,615 ft.
Manitzia et al No. 1 Hale, SE cor. NE SE Sec. 1-7-13. Drlg. ch. rk. 2,115 ft.
H. L. Nutting No. 1 4-L Co., C NE NW Sec. 24-7-11. 8-in. 2,065 ft.; T.D. 2,831 ft.; comp.; pmp. 30 B.P.D.; 2,831 ft.
Geo. L. Pace No. 3 Logan Oil Co., SW

NW Sec. 26-10-13. 8-in. csg. 1,708 ft.; tstg. 1,915 ft.

Richards & Holloway No. 1 Bowman Hicks, Sec. 11-7-13. Tstd. dry 2,404 ft.; acdzd. with 5,000 gal.; tstd. dry; T.D. 2,548 ft.; W.O.S.R. 2,548 ft.

Richards & Holloway No. 1 Long Bell, C NW NE Sec. 15-7-13. 10-in. 95 ft.; 5½-in. 2,130 ft.; tstd. S.G. and used 5,000 gal. acd.; tstg. 2,392 ft.

Richards & Holloway No. 1 Sabine Lbr. Co., NE NW Sec. 7-7-12. O.W.W.O.; arng. acd. 2,710 ft.; D.&A.

C. R. Schuster No. 1 Mary Garcia, NE cor. NW SE Sec. 15-7-13. T.D. 2,603 ft. P.B. 2,585 ft.; tstd. dry S.D.; W.O. 2,-585 ft.

Sklar & Neighbors No. 1 Martinez, Sec. 11-7-13. R.U.

C. H. Smith No. 1 Sabine Lbr. Co., NE cor. NW NW Sec. 9-7-13. Set 10-in. surf. csg. 90 ft.

H. M. Sneed No. 1 Leone, 330 ft. S line, 400 ft. W line, NW SE Sec. 8-7-13. R.U.

Tropical Oil Co. No. 1 Long Bell Lbr. Co., Sec. 5-8-13. D.S.T. 3,192-3,254 ft.; tstg. 65 ft. mud; S.G. in 10 min.; S.D.; contr. depth, 3,507 ft.; tstd. S.G. 3,-204-12 ft.

Lee Whitehurst No. 2 First Natl. Bnk., C SE NW Sec. 14-7-13. R.U.

Zwolle Synd. No. 1 Mansfield Lbr. Co., Sec. 8-7-19. T.D. 4,323 ft.; 5-in. csg. 3,830 ft.; drlg. plug 4,323 ft.; 2,500 gal. acd.; perf. 3,730-70 ft.; tstd. dry; W.O. 3,770 ft.; O.T.D. 4,323 ft.

Webster Parish

Hunt Oil Co. No. 8 Babb, Sec. 13-21-10. Top Bodcaw sd. 8,255 ft.; 7-in. csg. 8,966 ft.; T.D. 9,017 ft.; perf. 8,278-8,302 ft.; comp.; 201 B.P.D. dist. and 3,000,000 ft. gas; ¼-in. ck.; T.P. 2,900 lbs.; C.P. 3,000 lbs.; T.D. 8,965 ft.; O.T.D. 9,017 ft.

Hunt Oil Co. No. 3 Bodcaw-Stewart, C NW SW Sec. 34-21-10. Holloway sd. 5,822-46 ft.; 9⅝-in. csg. 5,951 ft.; tstd. S.O.&G. and will shoot formation; T.D. 5,840 ft.; O.T.D. 5,956 ft.

Hunt Oil Co. No. 2 Davis Unit, C NW NW Sec. 24-21-10. Hollw. sd. 5,595-5,603 ft.; set 9⅝-in. csg.; T.D. 5,897 ft.

Hunt Oil Co. No. 10 Davis, C SE SE Sec. 13-21-10. Drlg. sh.&L. 3,908 ft.

Hunt Oil Co. No. 20 Hope, C NE NW Sec. 24-21-10. Top Holloway sd. 5,596-5,604 ft.; set 9⅝-in. csg. 5,580 ft.; did not test Holloway sd.; top Bodcaw sd. 8,165 ft.; top Davis sd. 8,479 ft.; cutting stk. D.S. 6,118 ft.

Hunt Oil Co. No. 22 Hope Est., C SE SW Sec. 24-21-10. R.U.

Hunt Oil Co. No. 1 Pardee, Sec. 24-21-10. Set 13⅜-in. csg. 797 ft.; top "A" sd. 7,870 ft.; odor and stain of oil; top Bodcaw sd. 8,252 ft.; top Davis sd. 8,523 ft.; drlg. sh.&L. 8,600 ft.

Hunt Oil Co. No. 1 Sandifer, C NE NE Sec. 4-20-10. No Holloway sd. yet; set 9⅝-in. csg. 5,730 ft.; drlg. sh.&L. 7,-564 ft.

Magnolia Pet. Co. No. 1 Merritt Unit, C SW NW Sec. 14-21-10. Top Tr. Pk. 5,-715 ft.; no Holloway; 9⅝-in. csg. 5,-850 ft.; drlg. sd.&sh. 7,033 ft.

Magnolia Pet. Co. No. 1-C Pardee, C NW NE Sec. 17-23-11. Rmd. and set 9⅝-in. csg. 5,920 ft.; drlg. sh.&sd. 7,640 ft.

Midstates Oil Corp. No. 1 Weiori Lbr. Co. Unit, NE cor. NW Sec. 3-20-10. 9⅝-in. csg. 5,699 ft.; drlg. sh.&sd. 6,-928 ft.

North American Oil Consolidated Co. No. 3 E. L. Stewart, C SE SE Sec. 29-21-10. Drlg. sh.&L. 5,696 ft.

Harry Morgan No. 2-A Hope, C SE SW Sec. 24-21-10. Top "D" sd. 8,056 ft.; Bodcaw sd. 8,138-95 ft.; 7-in. csg. 8,-142 ft.; T.D. 8,195 ft.

Ohio Oil Co. No. 51 Bodcaw Acct. 2, NE cor. Sec. 15-21-10. Drlg. sd. 630 ft.

Ohio Oil Co. No. 1 W. Cox Acct. 2, SE cor. SW Sec. 15-21-10. Drlg. sh.&L. 6,-153 ft.

Oliphant Oil Corp. No. 1 Fred Banks, C SE NW Sec. 2-20-10. Drlg. sh.&L. 6,-116 ft.

Oliphant Oil Corp. No. 1-B Stewart, C NW NE Sec. 5-20-10. Top Tr. Pk. 6,-117 ft.; Holloway sd. 6,160-67 ft.; 9⅝-in. csg. 5,884 ft.; drlg. sh.&sd. 7,789 ft.

Oliphant Oil Corp. No. 2-B Stewart, C NW NW Sec. 4-20-10. T.D. 6,131 ft.; rng. Schlmb.

Stanolind O. & G. Co. and Hunt Oil Co. No. 1 Pardee-Coffee Unit, C NE NE Sec. 36-21-10. R.U.

Stanolind O. & G. Co. No. 1 Webster Inv. Co., C NE NE Sec. 35-21-10. 13⅜-in. csg. 737 ft.; drlg. sh. 1,605 ft.

Union Prod. Co. No. 2 Stewart, SW SW Sec. 28-21-10. D.S.T. 5,835-44 ft.; tstd. 1 stand mud, 3 stands oil, and 5 stands brackish wtr.; cg. 5,961 ft.

Woodley Pet. Co. No. 1 Couch, C NW SW Sec. 36-21-10. R.U.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Clody-Primeaux, Sec. 65-12s-3e. R.U.

Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk.

Bancroft—Beauregard Parish

Geo. E. Lilly et al No. 1 W. K. Rice, Sec. 15-6s-13w. Drk.

Republic Prod. Co. No. 2 Columbia Ld. & Tmbr. Co., Sec. 16-6s-13w. R.U.

Republic Prod. Co. No. 2 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. Drk.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 Wax Bayou, Sec. 21-16s-12e. Cg. sd.&sh. 10,664 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 4 State-Bay St. Elaine, Sec. 19-23s-20e. T.D. 6,811 ft.; well blew out; stk. D.S.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 8 Wilberts, Sec. 66-9s-11e. T.D. 5,209 ft.; 7-in. csg. 5,-201 ft.; I.P. 245 B.P.D.; ¼-in. ck.; grav. 26.

Bayou Choctaw—West Baton Rouge

La. Crusader Oil Co. No. 3 Schwing, Sec. 29-8s-11e. Drlg. sh. 8,355 ft.

Standard Oil Co. et al No. 1 Marley Cypress Co., Sec. 29-8s-11e. T.D. 8,274 ft.; I.P. 904 bbls. P.L.O.; ⅝-in. ck.

Bayou Des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 Gheens Realty Co., sec. 56-15s-20e. T.D. 7,021 ft.; D.P. stk.; P.B. to 5,000 ft.; sdtrkd. at 5,000 ft.; drld. to 6,984 ft.; 9⅝-in. csg. 6,982 ft.; T.D. 8,266 ft., salt; P.B. 8,-150 ft.; W.O.C.

Amerada Pet. Corp. No. 2 St. Charles Ld. Co., sec. 13-15s-20e. T.D. 8,500 ft.; 9⅝-in. csg. 8,518 ft.; top salt 9,294 ft.; T.D. 9,295 ft.; P.B. 8,999 ft.; W. O.C.; set 680 ft. of 5⅛-in. csg. 8,997 ft.; perf. csg. 8,900-20 ft.; flwd. oil and wash wtr. for 20 hrs.; went dead; pull tbg.; perf. csg. 8,900-20 ft.; tstg.

Big Lake—Cameron Parish

Union Sulphur Co. No. 1 Hebert, Sec. 18-12s-8w. Drlg. sh. 10,376 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, Sec. 19-23s-20e. Loc.

Texas Co. No. 5 State, Sec. 19-23s-20e. Drlg. sh.&sd. 6,078 ft.

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 23 School Ld., sec. 16-14s-13w. T.D. 5,786 ft.; 7-in. csg. 5,323 ft.; tstd. S.W.; P.B. to sidetrack; T.D. 2,959 ft.; flwd. oil and sanded up; S.D.; T.A.

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. Drlg. sd.&gravel.

Magnolia Pet. Co. No. 23 Cameron Meadows, sec. 21-14s-13w. Drk.

Chacahoula—LaFourche Parish

Sun Oil Co. No. 3 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. Drk.

Charenton—St. Mary Parish

H. J. DeArman No. 1 Oak Lawn Plantation, Sec. 24-13s-10e. S.D. 7,510 ft.

Kinsley Oil, Inc., No. 2 Hertel, sec. 21-13s-9e. T.D. 1,133 ft.; 7-in. csg. 1,112 ft.; tstd. S.W.; S.D.

Pan American Prod. Co. No. 6 Veeder, Sec. 11-13s-9e. T.D. 1,890 ft.; 5-in. csg. 1,883 ft.; I.P. 64 bbls.; open tbg.

Pan American Prod. Co. No. 10 Veeder, Sec. 11-13s-9e. Loc.

Creole—Cameron Parish

Superior Oil Co.-Pure Oil Co. No. 3 State-Gulf of Mexico. T.D. 2,458 ft.; rep. rig; driving more piling.

Darrow—Ascension Parish

Humble O. & R. Co. No. 19 Community, Sec. 31-10s-2e. Drlg. sdy. sh. 6,875 ft.

Humble O. & R. Co. No. 4 Landry, Sec. 34-10s-2e. Drk.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 8 State, Sec. 5-22s-16e. Drlg. sdy. sh. 4,827 ft.

Edgerly Field—Calcasieu Parish

R. H. Kean et al No. 1 M. J. Muller et al, Sec. 29-9s-11w. R.U.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point, Sec. 35-11s-8e. R.U.

Four Isle—Terrebonne Parish

Texas Co. No. 10 State, sec. 24-21s-18e. 9⅝-in. csg. 6,775 ft.; drlg. sdy. sh. 9,-556 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 1 Kuntz, Sec. 40-17s-15e. T.D. 10,752 ft.; P.B. 9,178 ft.; 5-in. csg. 9,178 ft.; tstd. S.W. 9,093-95 ft.; tstg. at 8,880-85 ft.; showed S.W.; flwg. 20 B.F.P.H.; 10/64-in. ck., 12% oil, balance S.W.

Garden Island—Plaquemines Parish

Texas Co. No. 30 State, Sec. 38-23s-33e. Drlg. sdy. sh. 1,498 ft.

Grand Bay—Plaquemines Parish

Gulf Ref. Co. No. 2 Grand Prairie Lve., sec. 48-20s-18e (1,320 ft. W of No. 1) T.D. 6,148 ft.; 9⅝-in. csg. 6,125 ft.; flwd. wash wtr. and oil; went dead; pulling screen.

Gulf Ref. Co. No. 1 State-QQ, Sec. 6-20s-19e. Loc.

Hackberry—Cameron Parish

Berry Oil Corp. No. 1 Cora E. Lyons, sec. 28-12s-10w (West Hackberry). T.D. 3,535 ft.; 7-in. csg. 3,445 ft.; perf. csg. 3,375-82 ft.; pmpg. 98% S.W.; 60 bbls. fluid; to W.O.

Darryl Davis No. 1 Bickford, sec. 39-12s-10w. T.D. 2,873 ft.; top sh., L., and brkn. cap; S.O. 2,792 ft.; 5-in. csg. 2,778 ft.; T.D. 2,873 ft.; cleaned hole; set cmt. retainer at 2,765 ft.; drld. out to T.D. 2,877 ft.; tstd. S.W.; T.A.

Gulf Oil Corp. No. 1 Noble, sec. 22-12s-10w. T.D. 3,201 ft.; P.B. 2,830 ft.; W. O.C.; to sdtrk. jnk.; fsg.; P.B. 2,830 ft.; sdtrkd. 1,121 ft.; T.D. 3,215 ft.; 7-in. csg. 3,196 ft.; drlg. sh. 3,238 ft.

Stanolind O. & G. Co. No. 12 Carter, Sec. 22-12s-10w. T.D. 3,647 ft.; 7-in. csg. 3,515 ft.; swbg. and flwg.

Superior Oil Co. No. 1-C Dorrisse, Sec. 30-12s-10w. Drlg. sh. 6,604 ft.

Texas Co. No. 24-B State, Sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; T.D. 8,163 ft.; 7-in. csg. 8,050 ft.; perf. csg. 7,903-16 ft.; tstd. S.W.; P.B. 7,780 ft.; perf. csg. 7,763-74 ft.; W.O.S.R.

Union Sulphur Co. No. 7 Caldwell et al, Sec. 37-12s-10w. Loc.

Union Sulphur Co. No. 7 Hanzen, sec. 13-12s-10w. T.D. 4,165 ft.; P.B. 4,010 ft.; sdtrkd. 4,083 ft.; T.D. 4,144 ft.; make D.S.T.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, Sec. 37-17s-9e. Drlg. sh. 10,844 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1-A Roane Sugar Co., Sec. 38-13s-9e. T.D. 10,645 ft.; milling to sdtrk. stk. D.P.; sdtrkd. 10,2[illegible] ft.; S.D. 10,615 ft.; perf. csg. 10,598-10,612 ft.; tstd. S.W.; P.B. 10,514 ft.; perf. csg. 10,466-80 ft.; tried to blow out; no recovery; P.B. 10,526 ft.; perf. csg. 10,516-26 ft.; tstd. 950 lbs. pres. and S.W.; perf. csg. 9,960-70 ft.; tstd. 850 lbs. press.; 250 jts. of oil and 20 jts. of S.W.; run screen.

Jefferson Island—Iberia Parish

Texas Co. No. 1 State-Lake Peigneur, Twp. 12s-5e. Top salt 3,642 ft.; base salt 3,741 ft.; drlg. sdy. sh.&L. 7,-080 ft.

Jennings—Acadia Parish

F. W. Bennett Oil Corp. No. 1 Grace, Sec. 45-9s-2w. Drlg. sh.&L. 4,414 ft.

W. T. Burton No. 6 Roboria, sec. 41-9s-2w. 7-in. csg. 6,721 ft.; fsg. tbg.; T.D. 6,997 ft.; prep. to sdtrk.

Cosmo Pet. Co. No. 1 Jennings-Clement, sec. 46-9s-2w. T.D. 3,552 ft.; sdtrkd.; T.D. 3,581 ft.; fsg.; P.B. 2,035 ft.; W. O.C.

Frio Oil Co. No. 2 Gulf fee, sec. 45-9s-2w (NW flank). 10¾-in. csg. 1,512 ft. T.D. 6,882 ft.; fsg.

Frio Oil Co. No. 1 Iowa-Jennings, Sec. 45-9s-2w. T.D. 6,687 ft.; P.B. 4,300 ft.; T.D. 6,170 ft.; twisted off drill collar; fsg.; sdtrkd. 5,550 ft.; T.D. 7,335 ft.; P.B. 3,148 ft.; to sdtrk.

Frio Oil Co. No. 2 Iowa-Jennings, Sec. 45-9s-2w. Drk.

Glassell & Glassell No. 6 Trushell, sec. 42-9s-2w. Drlg. sh.&L. 6,834 ft.

Guaranty Oil Co. No. 1 Rowson & Haber, Sec. 46-9s-2w. T.D. 3,403 ft.; 5-in. csg. 3,403 ft.; perf. csg. 3,385-95 ft.; sanded up; C.O.

Gulf Oil Corp. No. 40 Arnaudet, sec. 48-9s-2w. T.D. 4,483 ft.; run 9⅝-in. csg. 4,478 ft.; drlg. 4,559 ft.

Gulf Ref. Co. No. 1 Lamb, Sec. 45-9s-2w. Drk.

L. & L. Oil Co. No. 2 Houssiere Latreille, Sec. 47-9s-2w. Drlg. sh.&L. 2,405 ft.; no report.

Ladak Oil Corp. No. 7 Jennings, Sec. 46-9s-2w. R.U.

Pet. Heat & Power Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 3,995 ft.; P. B. 1,774 ft.; tstd. S.W.; S.D.

Pet. Heat & Power Co. No. 2 Iowa-Jennings, sec. 45-9s-2w. T.D. 2,167 ft.; P. B. 1,595 ft.; 5½-in. csg. 1,585 ft.; S.D.

Shell Pet. Corp. No. 4 Community, sec. 40-9s-2w. T.D. 6,675 ft.; P.B. 6,459 ft.; perf. csg. 6,320-50 ft., 6,375-6,405 ft.; flwd. 292 bbls. fluid in 24 hrs.; 14/64-in. ck.

Superior Oil Co. No. 8 Jennings-Haywood, Sec. 41-9s-2w. Drlg. sd.&sh. 4,-821 ft.

Superior Oil Co. No. 15 Leckelt, Sec. 42-9s-2w. Drlg. sd.&sh. 4,418 ft.

Three Sands Oil Co. No. 2 Clement, Sec. 46-9s-2w. T.D. 1,736 ft.; 6-in. csg. 1,-700 ft.

Victor Weisse No. 1 Clement, sec. 46-9s-2w. 6⅝-in. csg. 3,032 ft.; T.D. 3,255 ft.; sdtrkd.; T.D. 3,300 ft.; well blew out; conditioning mud.

Lafitte—Jefferson Parish

Carter-Perrin & Brian No. 1 Lucien Adams, Sec. 9-17s-24e. Drlg. sh. 7,-210 ft.

Texas Co. No. 12 LaFitte, Sec. 20-17s-24e. Drlg. sdy. sh. 5,157 ft.

Texas Co. No. 3 Marrero Ld. Co., sec. 29-17s-24e. Drlg. sh.&L. 10,300 ft.

Texas Co. No. 10 Rigolet Cooperative Fur Co., Sec. 28-17s-24e. Drlg. sh. 10,-004 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 42 State-Lake, sec. 40-21-19e. Top salt 11,301 ft.; T.D. 11,333 ft.; 7-in. csg. 11,333 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 21 State, sec. 8-23s-18e. T.D. 6,058 ft.; P.B. and sdtrkd.; T.D. 5,761 ft.; PB, 5,536 ft.; to sdtrk.; T.D. 6,048 ft.; P.B. and sdtrkd. 5,100 ft.; T.D. 6,041 ft.; P.B.; sdtrkd.; drlg. sh. 5,491 ft.

Texas Co. No. 22 State, Sec. 8-23s-18e. Bldg. drk.

Leesville—Lafourche Parish

Wm. Helis No. 1-A City of New Orleans, Sec. 35-21s-22e. Drlg. sd.&shlls. 8,740 ft.

Texas Co. No. 7 Leeville, sec. 27-21s-22e. Sd. 7,300 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Laterre, Inc., Sec. 31-19s-19e. Dredge canal.

Humble O. & R. Co. No. 1 Robert Verret, Sec. 32-19s-19e. Drlg. hd. sd.&gvl. 1,876 ft.; 20-in. csg. 296 ft.; 13⅜-in. csg. 3,164 ft.; cd. oil sd. 8,463-65 ft.; 9⅝-in. csg. 9,056 ft.; drlg. sh. 10,-948 ft.

Lockport—Calcasieu Parish

Magnolia Pet. Co. No. 23 Miller, Sec. 9-10s-9w. T.D. 7,952 ft.; P.B. 6,774 ft.; tstd. S.W.; P.B. 4,363 ft.; perf. csg. 4,-355-58 ft.; run tbg. to test.

T. C. Markley No. 1 Farquhar (offset Continental No. 1 J. H. Moss). Drlg. sh. 6,640 ft.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 5 State-Lake Long, Sec. 64-17s-19e. Drlg. sh. 2,764 ft.; 13⅜-in. csg. 2,761 ft.; 9⅝-in. csg.; T.D. 9,-398 ft.; oil sd. 9,342-98 ft.; cd. sd. S.O. &G. 10,228-37 ft.; T.D. 10,240 ft.; recovered 1,359 ft. of oil 10,232-36 ft.; tstg.

New Iberia—Iberia Parish

H. Fotiades No. 7 Gulf Ld., Sec. 25-12s-7e. Drk.

Wm. Helis No. 6 Schwing, Sec. 56-12s-7e. Salt 3,949-50 ft.; P.B. 1,850 ft.; T.D. 3,938 ft.; trying to sdtrk. at 3,-872 ft.; T.D. 5,352 ft.; sdtrkd.; T.D. 5,012 ft.; 7-in. csg. 4,960 ft.

Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co. No. 5 Bryant, Sec. 25-12s-7e. Drk.

Texas Co. No. 2 Clemente Hebert, sec. 25-12s-7e. 10¾-in. csg. 844 ft.; T.D. 4,555 ft.; 7-in. csg. 4,543 ft.; I.P. 58 bbls. 9 hrs.; 10/64-in. ck.

Texas Co. No. 6 Duhe, Sec. 26-12s-7e. Drlg. sh. 1,322 ft.

Texas Co. No. 8 Duke, Sec. 26-12s-7e. T.D. 5,940 ft., salt; 7-in. csg. 5,931 ft.

Texas Co. No. 1 Gonsoulin, Sec. 13-12s-7e. Drlg. sdy. sh. 4,376 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 1 Staker, Sec. 33-8s-1e. Drk.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Garland, Sec. 4-6s-5e. 16-in. csg. 90 ft.; T.D. 5,448 ft.; 7-in. csg. 5,422 ft.; oil sd. 5,428-46 ft.; I.P. 621 B.P.D.; ¼-in. ck.

Pan American Prod. Co. No. 1 Rene Nezal. Drk.

Y. D. Spill No. 1 Gaudet, sec. 4-6s-5e. Drlg. sd.&sh. 4,597 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 1-A Orleans Levee Bd., Sec. 18-19s-17e. T.D. 8,189 ft.; 7-in. csg. 8,162 ft.; drlg. plug.

Gulf Ref. Co. No. 4 State, Sec. 17-19s-17e. T.D. 11,014 ft.; P.B. 10,978 ft., tstd. S.W.; P.B. 10,780 ft.; perf. csg. 10,745-60 ft.; made sqze. job 10,060-70 ft.; perf. csg. 9,685-90 ft.; tstd. S.W.; P.B. 8,921 ft.; perf. csg. 8,994-9,006 ft.; tstd. S.W.; perf. csg. 8,992-97 ft.; tstd. S.W.; made sqz. job; perf. csg. 8,151-71 ft.; tstd. drlg. mud; P.B. 8,-108 ft.; W.O.C.

Gulf Ref. Co. No. 5 State, Sec. 17-19s-17e. Loc.

Gulf Ref. Co. No. 6 State, Sec. 17-19s-17e. Driving piling.

Raceland—Lafourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; S.D.

Amerada Pet. Corp. No. 2 South Coast Corp., Sec. 35-15s-19e. T.D. 12,200 ft., 4¾-in. csg. 10,189 ft.; P.B. 12,164 ft.; perf. csg. 12,049-12,120 ft.; D.S.T. failed.

Amerada Pet. Corp. No. 3 South Coast Corp., Sec. 34-15s-19e. R.U.

Tide Water Oil Co. No. 1-A South Corp Sec. 34-15s-19e. Drlg. S.W. sd. 7,390 ft.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 14 United Ld. Co., Sec. 15-10s-4e. T.D. 1,315 ft.; I.P. 125 bbls. P.L.O. per day; ¼-in. ck.

Sorrento Pet. Corp. No. 2 White, Sec. 22-10s-4e. S.D. 105 ft.

South Roemoke—Jeff Davis Parish

Continental Oil Co. No. 1 Joe Sturdivant, Sec. 36-10s-4w. T.D. 12,088 ft.; set 2,917 ft. of lnr. at 12,086 ft.; W. O.C.; will perf. csg. above 11,309 ft.

Lutcher-Moore Co. No. 5 fee, Sec. 19-9s-sec. 23-10s-4w. Sh. 9,736 ft.; cmtd. 7-in. csg. 8,888 ft.; drlg. sdy. sh. 10,-817 ft.

Starks—Calcasieu Parish

Lutcher-Moore Co. No. 5 fee, sec. 19-9s-12w. T.D. 4,153 ft., salt; P.B. 3,987 ft.; 7-in. csg. 3,827 ft.; bailed dry; S.D. 3,857 ft.

Timballer Bay—Lafourche Parish

Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; T.D. sdtrkd. hole 6,231 ft.; fsg.; P.B. and sdtrkd. 3,501 ft.; T.D. 6,545 ft.; drld. by jnk. to 6,-668 ft.; P.B.; 7-in. csg. 6,651 ft.; top salt 7,224 ft.; T.D. 7,268 ft., salt; P.B. 5,400 ft.; perf. csg. 5,330-40 ft.; tstd. 3,504 lbs. press.; recvd. 170 ft. oil; rng. tbg.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 2 Ducos-Abriabet, Sec. 10-17s-20e. Drk.

Pan American Prod. Co. No. 1 A. Robichaux, sec. 3-17s-20e. T.D. 5,889 ft.; stk. D.S.; P.B. and sdtrkd. 6,313 ft.; T.D. 6,910 ft.; abd.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 1 Bureas

Lve. Bd., Sec. 23-21s-30e. T.D. 7,472 ft.; 7-in. csg. 5,830 ft.; perf. csg. 5,618-58 ft.; I.P. 1,168 B.P.D.; ¼-in. ck.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Fontenot, Ludeau-Tate Unit, Sec. 46-3s-2e. Drlg. sh. 8,900 ft.
Continental Oil Co. No. 2 Haas, Sec. 44-3s-2e. Drlg. sh. 1,572 ft.
Continental Oil Co. No. 2 La. Ld. & Imp. Co., Sec. 46-3s-2e. T.D. 9,090 ft.; I.P. 355 B.P.D.; ¼-in. ck.
Continental Oil Co. No. 2 Tate, Sec. 44-3s-2e. Drlg. sh. 1,504 ft.
Continental Oil Co. No. 2 Vidrine Deville, Sec. 46-3s-2e. R.U.
Texas Co. No. 1 fee, Sec. 27-3s-2e. Drlg. 50 ft.
Texas Co. No. 2 fee, Sec. 27-3s-2e. Loc.

West Gueydan—Vermilion Parish

Pure Oil Co. No. 1 Vermilion Irrig. Co., Sec. 41-12s-2w. Drlg. sh. 7,544 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 O. Miller, sec. 7-9s-5w. T.D. 8,918 ft.; 7-in. csg. 8,918 ft.; flwd. 380 B.O.P.D.; ¼-in. ck.; started making S.W.; killed; reperf. csg.; tstg.

S. LOUISIANA WILDCATS

Acadia Parish

Atlantic Ref. Co. No. 1 Klumpp, Sec. 12-7s-2w. Drlg. sh. 8,012 ft.
P. D. Freeman No. 2 J. E. Settig, Sec. 17-7s-1w. S.D. 894 ft.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. Drk.
Western Gulf Prod. Co., Sec. 16-10s-1w. Loc.

Avoyelles Parish

Magnolia Pet. Co. No. 1 W. G. Bowden, Sec. 7-2s-4e. Drlg. sh. 6,346 ft.

Beauregard Parish

Humble O. & R. Co. No. 1 Powell Lbr. Co., Sec. 25-3s-8w; (deep core test). Drlg. 5,500 ft.
Republic Prod. Co. No. 1 Lutcher Moore Lbr. Co., Sec. 14-7s-12w. Drk.

Calcasieu Parish

Sun Oil Co. No. 2 Lutcher-Moore, sec. 12-8s-13w. T.D. 2,019 ft.; 13⅜-in. csg. 1,996 ft.; drlg. sh. 7,144 ft.
Wheeler Oil Corp. No. 2 Sch. Ld., Sec. 16-9s-7w. 15½-in. csg. 46 ft.; drlg. sdy. sh. 1,299 ft.

Cameron Parish

Federal Roy. Co. No. 1 State-Calcasieu Lake, Sec. 34-13s-8w. T.D. 1,525 ft.; run 6⅝-in. lnr. to protect hole.
Humble O. & R. Co. No. 2 K. B. Hanzen, 466 ft. S and E. NW cor. SW¼ Sec. 9-12s-6w. Drlg. sh. 11,320 ft.
Pure Oil Co. No. 2 Calcasieu Natl. Bnk., Sec. 18-12s-4w (½ mi. N of No. 1). T.D. 7,989 ft.; abd.
Union Sulphur Co. No. 3 Miami Corp., Sec. 33-12s-8w. (Willow Lake area). Drlg. sh. 9,407 ft.

Concordia Parish

Benedum & McCormick No. 1 L. P. Allen, sec. 35-5n-8e. R.U.

Lafourche Parish

Texas Co. No. 1 La Terre, Sec. 1-20s-21e. T.D. 8,898 ft.; 9⅝-in. csg. 8,898 ft.; drlg. sh. 10,647 ft.
Texas Co. No. 1 State-Catfish Lake, Sec. 77-19s-21e. Loc.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, Sec. 1-10s-13e. Drlg. sh. 6,868 ft.
W. T. Burton No. 1-B R. E. E. de Montluzin, Sec. 1-10s-13e. Drk.
W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. T.D. 8,367 ft.; P.B. 7,775 ft.; sdtrkd. at 7,959 ft.; T. D. 8,025 ft.; found leak in csg.; cmtd.; W.O.C.

Rapides Parish

J. J. Farrell No. 1 W. P. Aertker, Sec. 16-4n-1e. Drk.
E. F. Kalb et al No. 1 Lee Lbr. Co., Sec. 9-5n-3e. S.D. 140 ft.

St. Bernard Parish

Gulf Ref. Co. No. 4 State-R.R. (Lake Borgne), Twp. 12s-15e. Loc.

St. James Parish

Shell Pet. Corp. No. 1 Shexnayder, Sec. 38-12s-15e. Loc.

St. John the Baptist Parish

Shell Pet. Corp. No. 1 Godchaux, Sec. 97-11s-7e. Cg. sdy. L. 10,413 ft.

St. Landry Parish

Herton Oil Co. et al No. 1 Thistlephlite Lbr. Co., Sec. 60-4s-4e. Drlg. sdy. sh. 9,009 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hazel Burdin, Sec. 15-14s-12e. D.S.T. 7,060-68 ft.; tstd. S.W.
Texas Co. No. 6 State Lake Mongoulois, Sec. 10-10s-9e. Drlg. sh. 9,221 ft.
Texas Co. No. 11 St. Martin Ld. Co., Sec. 21-8s-7e. Top salt 8,904 ft.; T.D. 9,404 ft.; 7-in. csg. 8,912 ft.; P.B. 7,-175 ft.

St. Tammany Parish

A. P. Portas No. 1 W. C. Forbes, sec. 33-7s-15e. Drk.

Terrebonne Parish

Shell Pet. Corp. No. 1 Peters, Sec. 73-18s-18e. Cg. sh. 10,552 ft.
Texas Co. No. 1 Continental Ld. & Fur Co., Sec. 29-18s-14e. 18⅝-in. csg. 101 ft.; drlg. 7,008 ft.
Texas Co. No. 2 State-Coon Point, Twp. 23s-14e. Loc.

Vermilion Parish

Desoto Oil Co. No. 1 Richardson, Sec. 30-12s-4e. T.D. 7,110 ft.; abd.
Stanolind O. & G. Co. No. 2 F. Stovall, Sec. 88-14s-3e. R.U.

SOUTH MISSISSIPPI

George County

Ryan & Anderson No. 1 J. J. Newman, Sec. 9-1s-8w. Drlg. ch.&sh. 6,347 ft.

Lamar County

South Miss. Pet. Co. No. 1 Pearly Morris, Sec. 4-2n-14w. S.D. 3,023 ft.; no report.

TEXAS

Week Ending October 1

GULF COAST FIELDS

Hastings Field—Brazoria County

W. L. Goldston No. 3 fee, B.B.B.&C. Sur. R.U.
Stanolind O. & G. Co. No. 1-B Moore, I.&G.N. Sur. 22. T.D. 6,080 ft.; tstg.
Stanolind O. & G. Co. No. 2-C Cecil Brown, W. H. Snyder Sur. Drk.
Stanolind O. & G. Co. No. 8-C Moore, R. A. Magee Sur. Drlg. 1,612 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 3 Armstrong Plantation, Polley & Chance Sur. Drlg. sh. 9,212 ft.
Harrison & Abercrombie No. 2 Chenault, C. Breen Sur. R.U.
Harris & Abercrombie No. 1 Fidelity O. & R. Co., Polly & Chance Sur. Drlg. sd.&L. 6,839 ft.
Harrison & Abercrombie No. 1 Fisher, and Larsen, C. Breen Sur. Drlg. sh. 9,369 ft.
Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. Loc.
Sun Oil Co. No. 1 Campbell, Chas. Breen Sur. Bldg. drk.

Stratton Ridge—Brazoria County

Sterling O. & R. Co. No. 1 J. C. Kramer, T. W. Grayson Sur. T.D. 3,695 ft.; P.B. 3,200 ft.; sdtrkd.; T.D. 4,631 ft., salt; 7-in. csg. 4,631 ft.; S.D. 4,980 ft. perf. csg. 4,395-4,420 ft.; tstd. S.W.; abd.

West Columbia—Brazoria County

Fros & Dunnam No. 2 Masterson, G. Tennille Sur. Drlg. sh. 4,010 ft.
General Crude Oil Co. No. 1 Campbell Est., J. H. Bell Sur. Drlg. sh. 1,712 ft.
Hogg Bros. No. 4 fee, M. Varner Sur. Drlg. sh. 1,312 ft.
Texas Co. No. 27 W. H. Abrams G. Tennille Sur. 7-in. csg. 5,250 ft.; tstg.
Texas Co. No. 28 Abrams, G. Tennille Sur. Drlg. sh. 2,215 ft.
Texas Co. No. 4 Rebecca Goldman, G. Tennille Sur. Drlg. 810 ft.
D. M. Wallace No. 3 Smith, G. Tennille Sur. Drlg. 1,612 ft.

Cedar Point—Chambers County

Standard Oil Co. of Texas and Salt Dome Oil Corp. No. 2-118 State, Galveston Bay. Cg. sd. 5,910 ft.

Seabreeze—Chambers County

Seabreeze No. 4 Acom, H.T.&B. Sur. No. 103. Cg. 8,212 ft.
Sun Oil Co. No. 1 Tate, H.T.&B.R.R. Sur. T.D. 8,634 ft.; P.B. 2,000 ft. to sdtrk.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1-38 State (6,000 ft. S of field in Turtle Bay). Bldg. drk.

Hitchcock—Galveston County

N. W. Hunter No. 3 Aarco O. & G. Co., A. Burke Sur. T.D. 5,153 ft.; tstd. oil &S.W.; P.B. 1,149 ft.; sdtrkd.; cd. oil sd. 5,139-50 ft.; 5½-in. csg. 5,139 ft.
Maco Stewart No. 6 fee, J. Spillman Sur. Cd. oil sd. 5,130-49 ft.; run 5½-in. csg.

Bammel—Harris County

H. M. Lawrence and Geo. Lawrence No. 1 C. Ehrkardt, H. Simmons Sur. R.U.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards Reels & Trobough Sur. Drk.
Stanolind O. & G. Co. No. 2 Paul Weber, Reels & Trobough Sur. T.D. 4,-035 ft.; 5½-in. csg. 4,016 ft.

Eureka—Harris County

Jack Frazier No. 1 Emma Helberg, J. Reinerman Sur. R.U.
Jack Frazier No. 2 Hogg Bros., J. Reinerman Sur. 10¾-in. csg. 2,505 ft.
Jack Frazier No. 1 Lackner, H. Reinerman Sur. T.D. 9,038 ft.; 5½-in. csg. 8,328 ft.; perf. csg. 8,085-95 ft.; flwd. 25 bbls. fluid per hr., 14⅝ brksh. wtr.; killed; perf. csg. 8,082-94 ft.; tstg.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.
Tide Water Asso. Oil Co. No. 1 H. H. Ford, J. Reinerman Sur. Drlg. 2,710 ft.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 1 Emmott, J. Waugh Sur. Drlg. sh. 1,-513 ft.
Amerada Pet. Corp. and Stanolind O. & G. Co. No. 3 Smith, J. Waugh Sur. Loc.
Bridwell O. & G. Co. No. 1 Gibson, Geo. Avers Sur. T.D. 6,860 ft.; 5½-in. csg 6,860 ft.; perf. csg. 6,851½-55½ ft.; comp.; no ga.
P. C. Bundy No. 1 Neri, G. Williams Sur. 10¾-in. csg. 1,200 ft.; drlg. sh. 2,690 ft.
E. M. Hailey No. 1 Albert Brown, J. Clarkson Sur. Loc.
Housh & Thompson No. 1 Bennett O. & G. Co., G. S. Reid Sur. Drlg. sh. 1,-312 ft.
Moore & Ahern No. 2 Whitehead & Rash, W. S. Powell Sur. Drlg. sh. 3,-715 ft.
Sinclair Prairie Oil Co. No. 1 W. W. Goodykoontz, Wiley S. Powell Sur. Loc.
Stanolind O. & G. Co. No. 1 Schumacker, J. Daswell Sur. T.D. 7,940 ft.; 7-in. csg. 7,252 ft.
H. E. Williams No. 3 Stern, G. Williams Sur. T.D. 6,838 ft.; completing.
Windsor Oil Co. No. 3 O. E. Parker, J. Waugh Sur. T.D. 6,841 ft.; tstg.

Friendswood—Harris County

Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 6 Kiesling-Dixon, T. Choate Sur. T.D. 6,046 ft.; tstg.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson. Drk.
Humble O. & R. Co. No. 1 West, T. Choate Sur. Drlg. sh. 4,316 ft.

Cordele—Jackson County

Magnolia Pet. Co. No. 3 Drushel, I.&G. N.R.R. Sur. Drk.
H. J. Porter No. 1 Woussi, Peter White Sur. Loc.

West—Jackson County

Magnolia Pet. Co. No. 4-A West, R. Musquiz Sur. Drlg. sh. 2,420 ft.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 3 McFaddin, S. A Pace Sur. 10¾-in. csg. 1,532 ft.; cg. 3,820 ft.

Cheek—Jefferson County

Shell Pet. Corp. No. 1 Ed. Pleasant, C. Hildebrand Sur. T.D. 7,726 ft.; tstd oil on D.S.T. 7,711-21 ft.; P.B. 7,725 ft.; flwg. 36 obls. dist. daily through ¼-in. ck.; killed well; perf. csg. 7,-717-20 ft.; flwg. 16 B.P.D.; ¼-in. ck. killed with wtr.; P.B. 7,698 ft.; W.O.C.

LaBelle—Jefferson County

Sun Oil Co. No. 4 Broussard-Hebert, B. Blackman Lge. T.D. 8,675 ft.; 7-in. csg. 8,605 ft.; pmpg. wtr. into hole to kill press. in No. 3 Broussard.

Spindletop—Jefferson County

British American Oil Co. et al No. 1 Gladys City, J. A. Veatch Sur. (deep test SW flank of dome). R.U.

Hardin—Liberty County

Geo. Echols No. 1 West, H. B. Johnson Sur. T.D. 7,616 ft.; tstg.
N. C. Ginther No. 1 West, A. B. Hardin Sur. Drk.
Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. Drk.
Gulf Oil Corp. No. 2 Tullos, H. B. Johnson Sur. Drlg. sh. 7,650 ft.
Smith & McDannald No. 2 Rives, A. B. Hardin Sur. T.D. 7,620 ft.; tstg.
Texas Co. No. 1 Davis, A. B. Hardin Sur. T.D. 7,825 ft.; tstd. gas; killed; retesting.
Woodley Pet. Co. No. 2 Emma Davis et al, A. B. Hardin Sur. T.D. 7,662 ft.; 5½-in. csg. 7,659 ft.; tstd. gas; made sqz. job; W.O.C.

McCrosky—Matagorda County

Pierce Est. No. 5 fee, David Fenton Lge. Cd. oil sd. 6,603-04 ft.; tstg.

Bay City—Matagorda County

Hamman Explin. Co. No. 2 Badouh, E. Hall Sur. Drlg. 7,310 ft.; no report.

Segno—Polk County

J. K. Dorrance No. 4-A Wing, I.&G.N. Sur. No. 14. Drlg. sh. 7,212 ft.
Humble O. & R. Co. No. 9-B Kirby, M. Victor Sur. T.D. 8,736 ft.; 7-in. csg 8,200 ft.; perf. csg. 8,103-10 ft.; swbg.; well will not flow.

Spurger—Tyler County

Republic Prod. Co. No. 13 Hurd, N. Hurd Sur. R.U.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Normandie Oil Co. No. 1 M. A. Ramsey, H.T.&B. Sur. Spd.
Texas Co. No. 1 E. F. Davis, Sec. 36, T. Spraggins Sur., 3,900 ft. SE of Manvel field. R.U.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
F. A. Gillespie et al No. 1 Kirby Lbr. Co., Chambers Co. Sch. Ld. Sur. T.D. 6,523 ft.; 5½-in. csg. 6,471 ft.
Salt Dome Oil Corp. No. 1 Ogden, E. Douthit Sur. 10¾-in. csg. 1,640 ft.; drlg. sh. 6,943 ft.

Galveston County

F. J. Anderson No. 1 L. Lobit, Lot A Subd. No. 6, J. M. Perry and E. M. Austin Lges. 10¾-in. csg. 2,520 ft.; cg. 7,746 ft.
Sun Oil Co. No. 1 R. U. Humphrey, Ruben Barrow Sur. Loc.

Harris County

Continental Oil Co. et al No. 1 J. J. Sweeney, Sec. 5, W.C.R.R. Sur. 10¾-in. csg. 1,026 ft.
H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.

Jackson County

Chapman Minerals Corp. No. 1 Bennett ranch, Valentine Garcia Sur. Loc.
Texas Co. No. 1 J. F. Weed, John D. Newell Sur. Drlg. sh. 3,750 ft.

Jefferson County

British American Oil Prod. Co. et al No. 1 Gladys City, J. A. Veatch Sur. (SW flank of Spindletop). R.U.
Geo. Echols et al No. 1 American Natl. Bnk., J. J. French Sur. T.D. 8,515 ft.; abd.
I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 1 M. C. Todd, Wm. Carr Sur. Loc.

Montgomery County

Deep South Pet. Corp. No. 1 Foster Lbr. Co., Preyor Bryan Sur. 10¾-in. csg. 700 ft.; drlg. sh. 5,537 ft.
Jack Frazier No. 1 Chase Natl. Bnk., D Garrett Sur. 10¾-in. csg. 1,700 ft.; drlg. sh. 5,526 ft.
G. G. M. Oil Co. No. 1 Floyd Oil Co., Lot 62, W.C.R.R. Sur. No. 11. 10¾-in. csg. 464 ft.; cg. 5,960 ft.
David D. MacDaniel No. 1 J. C. Fleming, D. M. Gaheen Sur. Temp. S.D. 4,650 ft.; abd.
Mills Bennett Prod. Co. No. 1 Victoria Griffin, Archibald Lge. 10¾-in. csg. 1,512 ft.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. S.D. 380 ft.

Orange County

Sun Oil Co. No. 1 Lutcher-Moore Lbr. Co., B. Johnson Sur. Cg. sh. 7,040 ft.

Waller County

Stanolind No. 1 Robertson, H.&T.C. Sur., Sec. 123. T.D. 7,500 ft.; 5½-in. csg. 7,400 ft.
Stanolind O. & G. Co. No. 1 J. J. Sweeney Est., T. S. Reese Sur. No. 110, 2,-640 ft. E of No. 1 Freeman in Katy gas field. Drlg. sh. 3,310 ft.
Stanolind O. & G. Co. No. 1 Young, T. S. Reese Sur. No. 124, 13¾-in. csg. 136 ft.; T.D. 7,500 ft.; 5½-in. csg. 7,-433 ft.; tstg.

Wharton County

Humble O. & R. Co. No. 1 Duncan, A. Edgar Sur. Loc.
Western Gulf Pet. Co. No. 1 Rust, B. Johnson Sur. T.D. 6,120 ft.; run elec. survey.

S. W. TEXAS WILDCATS

Aransas County

Housh-Thompson, Inc., et al No. 1 Kent-Crane, Wm. M. Carper Sur. 10¾-in. csg. 960 ft.; drlg. sh. 4,810 ft.

Atascosa County

R. C. Stanley No. 1 Schumann, Simon Malone Sur. No. 1069. S.D. 1,300 ft.

Bastrop County

Ira Brown No. 1 T. W. Bailey, John Crutchfield Sur. No. 12. Loc.
R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. S.D. 1,725 ft.
Paul Texas and Ashby No. 1 J. T. Grizzard, Andrew Graham Sur. D.S.T. 7,-088-23 ft.; recvd. 1 thrib. of mud; S. S.O.; S.D.; T.D. L. 7,123 ft.

Bee County

Aid et al No. 2 Imogene Hall, Geo. Kerr. Sur. R.U.
W. D. Walton et al No. 1 Ray, A. S. Mangum Sur. 10¾-in. csg. 156 ft.; cg. sh.&L. 3,340 ft.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,185 ft.

Bexar County

M. S. Blackburn No. 1 Miller, Thos. Barwick Sur. No. 324. Cg. ch. S.O.&G. 2,-470 ft.
Lewis Ridder No. 1 fee, Jose Maria Baerera Sur. Loc.

Blanco County

D. M. Johnston No. 1 Glasscock, W. W. McDonald Sur. No. 50. 10-in. csg. 150 ft.; S.D. 840 ft.

Caldwell County

R. H. Dye No. 1 Voight, Wm. Watkins Sur. S.D. 1,998 ft.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogesberry Sur. Drlg. sh. 8,196 ft.

De Witt County

Marjo Oil Co. No. 1 W. D. McCurdy, John Hunt Sur. S.D. 150 ft.

Duval County

W. H. Appell No. 1 Hagist, B.S.&F. Sur. No. 265. Drk.
W. H. Appell No. 1 Rogers, El Mesquite gr. T.D. 3,535 ft.; abd.
Atlantic Ref. Co. No. 1 Garcia, Sec. 409. Cg. sd. 4,218 ft.
Joe Gier and Smith & Storey No. 1 W. R. Peters, A.B.&M. Sur. No. 175. Drlg. 250 ft.
Daubert Gorman and Yoakam No. 1 Society for the Propagation of the Faith, S. B. Childers Sur. 175. T.D. 1,254 ft.; abd.
Frank Gravis No. 2 Schallert, Seale, Morris & Seale Sur. No. 255 (Palagana salt dome). S.D. 3,425 ft.
Magnolia Pet. Co. No. 1 Duval Co. Rnh. Co., G.C.&S.F. Sur. No. 267. T.D. 2,968 ft.; abd.
E. J. Purl No. 1 Corkill, J. Poitevent Sur. Drlg. 3,020 ft.
Stewart and Nye No. 1 Welder, J. Poitevent Sur. No. 213. T.D. 1,557 ft.; 7-in. csg. 1,543 ft.
R. A. Thompson No. 1 Parr, Julia Rogers Sur. No. 118. R.U.

LEGAL

Sale of oil and gas leases—Department of the Interior, General Land Office, Washington, D. C. Notice is given that the following described lands and deposits of oil and gas therein contained are offered to the qualified bidder of the highest bonus per acre for leasing pursuant to section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386: Unit No. 1, the principal island, East Timbalier Island, known locally as Bird Island, located in fractional Secs. 34, 35, and 36, T. 23 S., R. 21 E., Secs. 2 and 3, T. 24 S., R. 21 E., and Sec. 31, T. 23 S., R. 22 E., Louisiana Meridian, situated on the Gulf Coast of La Fourche Parish, State of Louisiana, lying above the elevation of mean high tide, containing 295.77 acres, more or less. Unit No. 2, two islands, adjoining Unit No. 1 in a northeasterly direction between said principal island and Raccoon Pass, Island No. 1 located in fractional Sec. 31, and Island No. 2 located in fractional Sec. 32, both in T. 23 S., R. 22 E., Louisiana Meridian, situated on the Gulf Coast of La Fourche Parish, State of Louisiana, lying above the elevation of mean high tide, containing 11.69 and 69.29 acres, respectively, more or less. Sealed bids will be received in the office of the Secretary of the Interior up to 12:00 o'clock (noon), October 31, 1938. Bids must be submitted on each unit separately but both units, if awarded to the same bidder, may be included in a single lease. Each bidder must submit a certified or cashier's check or draft for 1/5 of the amount bid, payable to the order of the Secretary of the interior, and furnish a showing of qualifications as required by section 7 of Circular 1386. The remaining 4/5, together with the annual rental at the rate of $1 per acre, must be paid by the successful bidder prior to the issuance of lease, and the deposits of other bidders will be returned. The envelopes should be marked plainly "Bid for Unit No. — (1 or 2), East Timbalier Area. Not to be opened before noon, October 31, 1938." The bidders are warned against violations of the provisions of Sec. 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior. Protests by the State of Louisiana and others claiming under the State against the granting of Government leases for the group of islands on the ground that they are the property of the State were overruled by the Secretary of the Interior in a decision rendered July 29, 1938 (A. 21589), after an oral hearing at which the protestants were represented. The Secretary held that the United States has asserted ownership of and jurisdiction over East Timbalier Island for more than 100 years and that the group of islands are public lands of the United States. Commissioner, General Land Office.

Hoard Exploration Co.

Seismograph Surveys

618 Esperson Bldg.

Houston - - - Texas

W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D.

Edwards County

Evans & Love No. 1 Steve Brown, Blk. 6, G.W.T.&P. Sur. S.D. 6,261 ft.

Frio County

Humble O. & R. Co. No. 1 Schley, Jos. Travaider Sur. No. 174. 15-min. D.S.T. 3,520-51 ft. tstd. no press.; recvd. 175 ft. mud with oil odor and 180 ft. S. W.; 15-min. D.S.T. 3,595-3,617 ft. tstd. 45 ft. of mud, S.S.O.: recvd. 2,500 ft. P.L.O.; D.S.T. 4,720-85 ft.; recvd. 396 ft. sulf. wtr.; D.S.T. Edw. L. 5,271-5,304 ft.; P.B. to test Austin chk.
Geo. Smith No. 1 Berry, T.C.R.R. Sur. No. 1. R.U.

Goliad County

Steinberge Pet. Corp. No. 1 Albrecht, T. Hancock Sur. Drlg. 2,112 ft.
Sun Oil Co. No. 1 Lee Homer John Payne Sur. Drlg. sdy. sh. 7,364 ft.

Gonzales County

Hochheim Dev. Trust No. 1 Dubose, E. G. Coffman Sur. 10-in. csg. 37 ft.

Guadalupe County

R. Hamil No. 1 E. J. Zuehl, Vincente Duran Sur. S.D. 700 ft.
A. D. King No. 1-A Rosenbrock, Vincente Duran Sur. No. 4. Drlg. sh. 1,043 ft.
Marts and Beaven No. 1 Glenwinkle, Wakefield and Stewart Sur. Drlg. sh. 1,673 ft.; no report.
R. A. Williams No. 1 Weber, Guadalupe Torres Sur. Drlg. sh. 1,256 ft.; no report.

Hidalgo County

R. E. Hardin et al No. 1 E. M. Car, Hidalgo Co. Canal Subd., Lot 8, Blk. 8. Drlg. sh. 6,734 ft.
Phillips Pet. Co. No. 1 Flores (deep test N of Samfordyce field). T.D. 5,860 ft.; cmtd. 7¾-in. csg. 5,847 ft. (protection string); drlg. sh. 8,575 ft.
Union Sulphur Co. No. 1 Am.-Rio Grande Ld. & Ir. Co. (Mercedes). Cmtd. 7-in. csg. 8,417 ft.; T.D. 9,618 ft.; 5½-in. lnr. set 8,369-9,618 ft.; tstd. S.W. 9,420-30 ft.; made sqze. job; P.B. 9,390 ft.; perf. csg. 9,372-80 ft.; swbd. S.W. and gas; perf. csg. 9,347-52 ft.; tstd. S.W.; perf. csg. 9,255-60 ft.; tstd. S. W.; perf. csg. 9,065-70 ft.; tstd. S.W.; perf. csg. 8,990-9,000 ft.; tstd. S.W.; perf. csg. 8,920-25 ft.; tstd. S.W.; perf. csg. 8,845-50 ft.; flwd. 24 bbls., 51-grav. dist. per day; ⅝-in. ck.; killed to reperf.
Wheelock & Collins No. 1 Temple Lbr Co., Lino Cavos, Porc. 57-A. S.D. 6,589 ft.; drlg. sh. 7,250 ft.

Jim Hogg County

Humble O. & R. Co. No. 3 Anna Kelsey Bass, San Raphel gr., 3,732 ft. N of Kelsey field discovery well. R.U.

Jim Wells County

Humble O. & R. Co. No. 1 Ben Bellts, Staples Sur. 10¾-in. csg. 1,042 ft.; recovered 85 ft. oily mud: D.S.T. 3,930-50 ft.; drlg. sh. 5,112 ft.
Magnolia Pet. Co. No. 1 Moreno, La Trinidad gr. Spd.
Magnolia Pet. Co. No. 1 Romano, V. de Garcia Las Animas Sola gr., 1,126 ft. E of discovery well. Cd. sd., gas odor, 6,421-26 ft.; drlg. sh. 7,456 ft.
Presnall & Tsesmelis No. 1 Hoffman, Marcellino Lopez Sur. Drlg. sh. 2,008 ft.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. T.D. 7,318 ft.; fsg.
Transwestern Oil Corp. No. 1 B. H. Dunlap, Sur. 179-181 (1½ mi. SW East Premont field). 18⅝-in. csg. 485 ft.; T.D. 5,107 ft.; sdtrkd.; T.D. 5,194 ft.; 8⅝-in. csg. 5,168 ft.

Kendall County

Carpenter No. 1 Seldensticker, A. Rodriquez Sur. No. 257. S.D. 150 ft.
Millican and Norman No. 1 Werner, J. F. Torrey Sur. T.D. 909 ft.; bailed oil: 5½-in. csg. 907 ft.; T.D. 1,002 ft.; tstg.
H. N. Reid No. 1 Marguardt, J. Travuso Sur. No. 150½. Drlg. 656 ft.; no report.

Kerr County

H. C. Starkey No. 1-A Saue, T.W.N.G. R.R. Sur. S.D. 395 ft.

Kimble County

Plateau Oil Co. No. 1 E. E. Bolts, S. Jones Sur. T.D. 1,901 ft.; W.O.C.
Plateau Oil Co. No. 1 S. J. Davis, N Mitchell Sur. No. 44. Drlg. sh. 256 ft.
Plateau Oil Co. No. 1 Hunger, J. Dujne Sur. T.D. 1,600 ft.; sdtrkd.; drlg. by junk.

Kinney County

C. B. Wardlaw No. 1 Standart, Meliton Valdez gr. Drlg. sdy. L. 1,290 ft.

Kleberg County

Pure Oil Co. et al No. 1 State Ld., Tr. 68, Laguna Madre Bay, Lse. No. 528. T.D. 9,350 ft.; sdtrkd. 8,268 ft.; drlg. 8,297 ft.

La Salle County

Lake-Tobian Oil Co. No. 1 O'Connor ranch, Blk. 35, Bland & Nelson subd. 10-in. csg. 200 ft.; prep. to drill ahd.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S. of Ezzell). Spd. and S.D.
Midway Oil & Roy. Co. No. 2 Michalcik Jack Sur. 10¾-in. csg. 466 ft.; W.O.C.

Navarro Oil Co. et al No. 1 Brom, Wm. Strode Sur. Loc.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Drlg. 4,836 ft.

Live Oak County

J. K. Adair No. 1 Schultz Live Stock Co., Wm. J. Pierce Sur. 10¾-in. csg 20 ft.; drlg. sdy. sh. 1,660 ft.
R. H. Feltner No. 1 Reed, I.&G.N. R.R Sur. 15. R.U.
Goy E. Gaines et al No. 2 Great Southern Life Ins. Co., John Buchanan Sur. No. 37. T.D. 525 ft.; fsg.
Frank Gravis and Mintex Dev. Co. No. 1 Northwest Inv. Co., Uel Ritchie Sur. No. 133. Est. T.D. 3,000 ft.; blew in making S.W.&G.
Hanna et al No. 2 West, C. O. Ragland Sur. Cg. 3,960 ft.
Holland Oil Co. No. 1 Wallace, Cameron Co. Sch. Ld. Sur. Cg. 3,800 ft.
J. H. Turner No. 1 Federal Ld. Bnk. of Houston, John Turner Sur. T.D. 893 ft.; abd.
Wellington Oil Co. No. 1 Sanger, T.T.R. R. Sur. 349. Drlg. sh. 3,354 ft.
V. G. Schimmel et al No. 1 Geo. West, G. L. Haas Sur. T.D. 210 ft.
Wallace & Jones No. 1 Burrows, Enens Smith Sur. Drlg. sh. 2,793 ft.

McMullen County

W. T. Kirby No. 1 Chylek, J. M. Hernandez Sur. T.D. 1,210 ft.; D.D.
Scarborough & Biglane No. 1 Matula Emmitt, Jas. Garner Sur. No. 6. Drlg. 100 ft.; no report.
Wm. Spice, Jr., No. 1 Edrington, A.B.& M. Sur 37 (5 mi. E. Loma Alto). T.D. 2,519 ft.; flwg. est. 25 to 50 B.P. D.; 90 lbs. press.; tstg.

Maverick County

L. M. Lockhart No. 1 Ashbrook, W. J. Phillips Sur. No. 83. T.D. 4,042 ft.; tstg.
Wellington Oil Corp. and Humble O. & R. Co. No. 1 Indio Cattle Co., Antonio Revas gr. Drlg. 1,210 ft.

Medina County

J. W. Cromwell No. 1 J. W. Tondre, 1,-J. Rogers Sur. T.D. 1,250 ft.; P.B. 1,080 ft.; cmtd. csg. 1,021 ft.; shot 1,-024-80 ft.; T.D. 1,336 ft.; S.D.
Fred Felty No. 1 Jacob Schweers, Wm. Bryan Sur. No. 20. T.D. 755 ft.; abd.
A. D. Gaston No. 1 Rogers, Henry Wilson Sur. Drlg. 200 ft.; no report.
Whitefield and Draper No. 1 Ulbrich, Francis Hoffman Sur. No. 204. R.U.
Ziegler et al No. 1 Wiemers, F. Thurmm Sur. S.D. 905 ft.

Nueces County

Phillips Pet. Co. No. 1 Masten, Blk. 146, Delores I. & A. Co. Sur. Drlg. sh. 4,-312 ft.
Texas Co. No. 1 E. Little et al, Wm. Little Sur. 10¾-in. csg. 1,174 ft.; cg. 5,812 ft.
Union Prod. Co. No. 1 Minnie Brown (Agua Dulce area). Drlg. sh. 11,267 ft.

Refugio County

Geophysical Service Co. No. 1 Spaulding, Sec. 3, Aldrete Sur. Drlg. sh. 5,-001 ft.
Geophysical Service Co., Inc., et al No. 3 Rooke (LaRosa field), Jose Miguel Aldrete 6¾ Lge. Flwd. oil and gas; D.S.T. 5,890-5,902 ft.
J. W. Heard et al No. 1 Hudson, Estaben Lopez Sur. Spd.
Rutherford Oil Corp. No. 1 H. A. Schirmer, Sec. 1, Aldrete Sur. Drlg. sh. 3,-886 ft.

San Patricio County

Illinois Pet. Co. No. 1 Wilson, Blk. 9. J. J. Welder Sur., Coleman Fulton subd. Cd. sd. 5,794-97 ft.; run D.S.T.

Starr County

Hagan and Stewart Oil Co. No. 2 Salinas, La Sarotosa Antonio Canales Salinas Sur. T.D. 1,709 ft.; run csg. to test.
Magnolia Pet. Co. No. 1 Guerra, Santa Cruz gr. (LaReforma field), 1,900 ft. SW of discovery well. T.D. 5,945 ft.; 7-in. csg. 5,940 ft. (cor.); flwg. unestimated amt. of gas and dist.; 5/32-in. ck.
Sun Oil Co. No. 1 A. Olivarez, C.C.S.D. &R.G.N.G. Sur. No. 239 (Sun field). Drlg. sh. 1,035 ft.
Sun Oil Co. No. 1 Speer, Sec. 274 (1 mi. SW of discovery well). Drlg. sh. 700 ft.

Travis County

L. G. Priest No. 1 Mazock, J. M. Leavy Sur. No. 5. S.D. 855 ft.
R. F. C. Oil Co. No. 1 Jones, Reuben Hornsby Sur. No. 17. 5-in. csg. 1,009 ft.; T.D. 1,378 ft.; abd.
W. P. and O. A. Wolter No. 2 Johnston, Jas. Burleson Sur. Loc.

Webb County

Gage and Dawson No. 1 Bruni Est., H. Adams subd. of M. Arispe gr., Sec. 10. Drlg. 1,420 ft.
W. H. Holland No. 1 Bruni, J. V. Borrego gr., C Blk. 76, El Ranchito pasture. R.U. and S.D.
O. W. Killam No. 1 A. M. Bruni, Alberca De Arriba gr. Drlg. sh. 953 ft.
Lewis Jones No. 1 Bruni, Alberca De Arriba gr. T.D. 3,363 ft.; abd.
Superior Oil Co. of Calif. No. 1 E. A. De Spain, 10 mi. N of Oilton. 10-in. 60 ft.; drlg. sh. 2,350 ft.

Williamson County

F. J. Anderson No. 1 Teichelman, Absalam, Jett Sur. T.D. 2,451 ft.; fsg.
Fritz Fuchs No. 1 Cain, T. J. Bird Sur. Loc.

Wilson County

Stapper Oil Co. No. 1 J. McDaniel, L. Manchoca Sur. S.D. 3,008 ft.; prep. to drill ahead.

Zapata County

Kirkwood and Morgan No. 1 Flores, G. Flores Sur. 240. Loc.

EAST TEXAS

(Border Counties)

Cass County

Bateman Drlg. Co. No. 1 Eliza Jaynes, 80-ac. tr., Ambrose Douthet Sur. Hill sd. 6,120-36 ft.; S.D. 6,203 ft.
Bay Oil Corp. No. 6 Cobb, G. Crowder Sur. 5½-in. csg. at T.D. 6,095 ft.
Harry Hanbury No. 1 Echols et al, SE cor. Echols tr., Wm. Mayes Sur. Tstd. S.W. and S.O. 5,987 ft.; P.B. 5,967 ft. and W.O.C.; rmg.; T.D. 5,996 ft.
Texarkla Oil Corp. No. 1 Mayo, Bryant Holmes Sur. Set 6⅝-in. csg. 6,120 ft.; perf. 6,068-80 ft.; tstd. S.W.; shot formation 6,068-80 ft. with 3 qts. nitro; comp.; 125 B.P.D.; ½-in. ck.; flow valves; T.D. 6,143 ft.

Harrison County

F. H. Barnwell No. 1, Luther Hope Sur. Set 12-in. csg. 50 ft.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1 Hussey, Chas. Lockhart Sur. Drlg. sh.&L. 5,160 ft.
Carroll & Tooke No. 2 Fitzgerald, Gumpton Sur. Drlg. 657 ft.
Gulf Oil Corp. and Ohio Oil Co. No. 1 H. Davis, 30-ac. tr., Hanks Sur. 13⅜-in. csg. 131 ft.; drlg. sh.&L. 4,437 ft.
Hollandsworth Drlg. Co. No. 2 Davis, Wm. Smith Sur. Set 9⅝-in. csg. 1,932 ft.
Phillips Pet. Co. No. 2 Benefield, J. Hanks Sur. T.D. 6,170 ft.; set 7-in. csg. 6,157 ft.; perf. 6,066-73 ft. and 6,084-87 ft.; tstd. H.F.O.; will not flw.; reperf. csg. 6,062-73 ft. and 6,083-87 ft.; comp.; 228 B.P.D.; ¼-in. ck.; 10% S.W.; T.P. 125 lbs.; C.P. 1,100 lbs.
Shell Pet. Corp. No. 1 Fant, Coy Sur. Drlg. sh.&L. 3,829 ft.
Texas Co. No. 1 Braden, J. M. Fitzgerald Sur. Drlg. L.&sh. 4,386 ft.
Texas Co. No. 2 Braden, Jos. M. Fitzgerald Sur. Drlg. ch. rk. 2,033 ft.
Wrather & Lapin No. 1 Davis, Wm. Smith Sur. Set 9⅝-in. csg. 1,950 ft.

Marion County—Other

Capps Bros. Lbr. Co. No. 2 Stiles, Wall Sur. Tstg. 2,394 ft.

Panola County

Texas Co. No. 1 Claude Adams, T. Cox Sur. Top lower Marine 7,792 ft.; D.S. stk. 11,303 ft.; cutting out D.S.

Sabine County

Hugo Allen No. 1 Brooks, Isaac Low Sur. D.S. stk.; T.D. 5,644 ft.; drld. out cmt. to 4,864 ft.; will whipstock.

Shelby County

Redditt & Gray No. 1 Pickering Lbr. Co., Childers Sur. Drlg. 263 ft.

WEST TEXAS WILDCATS

Andrews County

Fuhrman Pet. No. 1 G. O. Ashton, sec. 12, Blk. A-42, P.S.L. Sur. Tstg. 4,-492 ft.
Humble O. & R. Co. No. 1-G University, Sec. 18, Blk. 4, University Sur. Drlg. 4,445 ft.
Olson Drlg. Co. No. 1 Lockhart-Brown, 5 mi. W of south end of Fuhrman pool. P.B. 4,770 ft.; C.O. 4,500 ft.
Texas Co. No. 1-H University, Sec. 4, Blk. 14, Univ. Sur. Drlg. 2,748 ft.
J. W. Tripplehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. Drlg. 3,868 ft.

Statement of the Ownership, Management, Etc., of THE OIL AND GAS JOURNAL

October 1, 1938

(This statement is published in compliance with the Act of August 24, 1912 and March 3, 1933).

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Publisher: The Petroleum Publishing Company, Tulsa, Okla.

Editor: C. O. Wilson, Tulsa, Okla.

Managing Editor: W. T. Anderson, Tulsa, Okla.

Business Manager: S. H. Rourke, Tulsa, Okla.

Stockholders holding 1 per cent or more of total amount of stock: Helen B. Lauinger, Tulsa, Okla.; P. C. Lauinger, Tulsa, Okla.; Estate of Edward R. Boyle, Oil City, Pa.; Edward P. Boyle, Oil City, Pa.; Edmond C. Breene, Trustee for Edward R. Boyle, under the will of Jennie B. Egan, Deceased, Oil City, Pa.

Known bondholders, mortgagees and other security holders holding 1 per cent or more of the total amount of bonds, mortgages or other securities: None.

S. H. ROURKE,
Business Manager.

Sworn to and subscribed before me this 27th day of September, 1938.

H. R. BARNETT,
Notary Public.

My commission expires October 3, 1941

H. C. Wheeler No. 1 White-Shelton Sec. 18, Blk. 36-A, P.S.L. Sur. Drlg. 1,920 ft.

Cochran County

Magnolia Pet. Co. No. 1 Della Wright Lab. 7, Lge. 96, Mills Co. Sch. Lds Sur. R.U.S.T. 4,712 ft.
Texas Co. No. 1 D. S. Wright, Lge. 115, Lab. 23, Potter Co. Sch. Lds. P.B. 4,910 ft.; swbd. 20 B.O. 8 hrs.; S.D.O.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, Sec. 39, Blk. W, T.&P. Sur. S.D. 1,861 ft.

Crane County

Gulf Oil Co. No. 2-B State-Lassiter, University Sur., Blk. 30, Sec. 27. Comp.; 430 B.O.P.D.

Culberson County

Harry J. W. Niehaus No. 1 fee, Blk. 109, Sec. 13, P.S.L. Sur. 1,800-ft. test. S.D. 2,500 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. S.D.O. 2,770 ft.

Ector County

Fields et al No. 1 Owenwood, sec. 6, Blk. 44, T.&P. Sur. Rng. 7-in. 4,070 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. S.D. 3, 571 ft.

Gaines County

Atlantic Refg. Co. No. 1 A. J. & J. J Parker, Sec. 264, Blk. G. W.T.R.R. Sur Drlg. 4,200 ft.
H. J. Brown No. 1 A. L. Wasson, Sec. 51, Blk. AX, P.S.L. Sur. Drlg. 1,765 ft.
Devonian Oil No. 1 King Est., Sec. 6, Lge. 305, Dawson C.S.L. Sur. Drlg. 4,490 ft.

Garza County

Gulf Oil Corp. No. 1 Swanson, Sec. 25, Blk. 2, H.&G.N. Sur. U.R. 7,505 ft.

Hockley County

Gulf Oil Corp. No. 2 Mallett, Lge. 34, Labor 25, Swbd. 13 B.O.P.H.; P.B. depth 5,010 ft.
Sid W. Richardson No. 2 Slaughter, Lge. 39, Lab. 58, Maverick Sur. W.O. flwd 100 B.O.P.D.; swbd. 11 B.O.P.H.; P.B. depth of 4,978 ft.
Snowden & McSweeney No. 1 A. A Slaughter, Zavalle C.S.L. Sur., Lge 35, Lab. 74. R.U.S.T. 4,772 ft.
The Texas Co. No. 1-B Mallett Lands, Lab. 1, Lge. 52, Scurry C.S.L. Sur Drlg. 4,250 ft.

Howard County

Anderson & Prichard No. 1 H. Hyman Est., Sec. 85, Blk. 29, W.&N.W. Sur. Straightening hole 2,835 ft.
Parten & Strickland No. 1 O'Daniel, Sec. 39, Blk. 30, T.&P. Sur. Drlg. 47 ft.
W. B. Powell, Trustee, No. 1 Guitar Trust, Blk. A, sec. 17, Bauer & Cockrell Sur. Drlg. 3,320 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. Fsg. 5,173 ft.
Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. S.D. 4,415 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield. S.D. 3,742 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. W.O.C. 4,450 ft.

Menard County

C. D. Haggerty No. 1 Callon, sec. 36, Jim Franz Sur. Fsg. 1,270 ft.

Pecos County

E. B. Carruth Tr. No. 1 J. H. Tippett, Sec. 4, Blk. 194, G.C.&S.F. Sur. S.D. 30 ft.
Geo. J. Greer No. 1 Price Est., Sec. 3, Blk. 12, H.&G.N. Sur. S.D.R. 1,820 ft.
J. N. Gregory et al No. 1 Humble-O'Neil, H.&G.N. Sur., Blk. 10, Sec. 74. S.D. 1,777 ft.
Helmerich & Payne et al No. 1 Dow Puckett, Sec. 66, Blk. 3, T. & P. Sur.; 3,500-ft. test. Spdg.
Humble O. & R. Co., No. 1 A. H. Robertson, Sec. 27, Blk. OW, T.C.R.R. Sur.; 4,500-ft. test. Drlg. 1,106 ft.
O. E. Schade No. 1 Neville, Sec. 72, Blk. 194, G.C.&S.C. Sur.; 2,500-ft. test. Drlg. 300 ft.
S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. W.O.C. 7,342 ft.; cmtd. off tools.
Thomason Prod. Co. No. 1 Notions, Sec. 1, Blk. 105, W. P. Howard Sur. Drlg. 379 ft.
Union Oil & Mining Co. No. 1 First Natl. Bnk. of Ft. Stockton, Sec. 6, Blk. 9, H.&G.N. Sur. S.D. 1,760 ft.

Reagan County

John W. Emch No. 1 T.&P. Ld. Trust, Sec. 203, Blk. 1, T.&P. Sur. R.U.M.

Reeves County

Frankley & Rice No. 1 W. A. Tunstill, Sec. 10, Blk. 56, T.&P. Sur. Rng. 7-in. 3,075 ft.
Ohio Oil Co. No. 1 Papham, Sec. 18, Blk. 54, T.&P. Sur. Drlg. 3,985 ft.

Runnels County

Castor-Koerner & Goodrich No. 1 Beddo, Subdiv. 41, T. T. Williamson Sur. No. 15½. Drlg. 310 ft.

Scurry County

Coffield & Guthrie No. 1 E. E. Spears et al, Sec. 130, Blk. 97, H.&T.C. Sur. P.B. 2,493 ft.; S.D. 2,495 ft.

Sterling County

J. W. Sward No. 1 Brennand, Sec. 107, Blk. 2, H.&T.C. Sur. S.D.O. 3,011 ft.

Stonewall County

General Crude Oil Co. No. 1 J. D. Smith, Sec. 371, Blk. 2, H.&T.C. Sur., 12 min.N Rotan. Drlg. 5,330 ft.

Terrell County

Schermerhorn Oil No. 1 H. P. Allison, Sec. 22, Blk. B-2, C.C.S.D.&R.G.N.G. Sur.; 2,500-ft. test. D.&A. 2,500 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch Sur. Fsg. 5,118 ft.
J. B. Watson No. 1 Llano, C.S.L. Sur., Sec. 16. S.D.O. 621 ft.

Upton County

White & Wilson No. 1 Webb, Sec. 176, Blk. 1, C.C.S.D.&R.G.N.G. Sur. S.D.; csg. 150 ft.

Val Verde County

A. W. Little No. 1 R. W. Sellers, Sec. 34, H.&G.N.R.R. Sur. 1,500-ft. test. S.D.R. 344 ft.

Ward County

Herschel M. Jaffe No. 1 Viola Meyers, Sec. 17, Blk. 32, H.&T.C. Sur. U.R. 872 ft.

Winkler County

S. W. Richardson No. 1-A J. M. Broshara, Sec. 22, Blk. 77, P.S.L. Sur. Rng. 7-in. 3,238 ft.
J. R. Sharp No. 1 Sharp-Crume, Sec. 7, Blk. B-2, P.S.L. Sur. Made 75 B.O.P.D.
J. R. Sharp No. 2 Sharp-Crume, Sec. 7, Blk. B-2, P.S.L. Sur. Loc.

Yoakum County

Honolulu Oil Co. No. 1 R. M. Kendrick, Sec. 825, Blk. D, J. H. Gibson Sur. R.U.S.T. 4,756 ft.
Magnolia Pet. Co. No. 1 Lynn, Sec. 770. Tbg. to treat; comp.; 312 B.O.P.D.
Shell Pet. Corp. No. 1 J. M. Rutts, Sec. 743. Loc.
S. C. Yingling et al No. 1 Nettie Barrier, Sec. 6. S.D.R. 5,314 ft.

TEXAS PANHANDLE

Carson County

Texhoma Nat. Gas Co. No. 1 J. M. Poling, Sec. 30, Blk. Y-2, T.&T. Sur. S.G. 2,914-3,058 ft.; sour gas; D.&A. 3,305 ft.

Collingsworth County

White No. 1 Wischamper. S.D. 2,263 ft.
Johnson No. 1 Taylor. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell. S.D. 5,650 ft.

Donley County

Robinson No. 1 Kuteman, Sec. 88, Blk. 20, H.&G.N. Sur. Drlg. 2,852 ft.

Floyd County

Mills Bennett No. 1 Montgomery, F. J. Latham Sur., 6 mi. S of Floydada. S.D. 5,960 ft.

Gray County

Lone Star Gas Co. No. 1 Fowler. Comp.; 5,000,000 ft. gas daily.
English No. 1 Eudy. S.D. 3,977 ft.

Kent County

B. Dolman et al No. 1 C. V. O'Keefe, Sec. 50, Blk. 1. 15½-in. csg. set at 140 ft.; drlg. at 180 ft. last report.

Lipscomb County

M. C. Tieman No. 1 Spangle, Sec. 626, Blk. 43, H.&T.C. Sur. S.D. 50 ft.

Potter County

Sinclair Prairie Oil Co. No. 1 Bush, Sec. 23, Blk. 6, B.S.F. Sur., about 3 mi. N of Amarillo; 8,500-ft. test. Set 10-in. csg. 3,634 ft.

Roberts County

Whitlock No. 1 Cunningham. Recmt. csg. 2,750 ft.

E. C. TEXAS WILDCATS

Angelina County

W. C. Atkinson No. 1 So. Pine Lbr. Co., T.&N.O. Sur. No. 14, 9 mi. SW of Lufkin. Cg. 2,345 ft.
J. C. Bonham No. 7 Cameron Lbr. Co., E. Miller Sur., 7 mi. E of Zavalla. R.U.
Ginter Bros. No. 4 Cones Hrs., J. Morin Sur., 3 mi. E of Dibol. S.D. 2,130 ft.

Cherokee County

R. Bunn Drlg. Co. No. 1 Bolin, W. A. Walter Sur., 3 mi. SE of Lone Star; 3,000 ft. E of Bunn No. 2 Bounds. Cg. oil sd. 5,005-07 ft.; C.O.; est. 2,000,000 ft. gas; made 24 B.O. in 12 hrs.

Freestone County

G. Shryock No. 1 M. S. Clark, M. D. Canton Sur., 8 mi. NW of Teague. S.D. 4,000 ft.

Grayson County

Jim McMurrey No. 1 Dr. T. J. Long, J. Garland Sur., 2 mi. S of Collinsville; 4,000-ft. test. Drlg. 720 ft.

Gregg County

Humble-Gulf No. 1 Porter Horton, H. G. Hudson Sur., 3½ mi. SW of Longview; 7,500-ft. test. W.O.C. 7,305 ft.

Houston County

John G. Mayo No. 1 A. Warroch, J. Sheridan Sur., 1½ mi. E of Procella. Drlg. 2,900 ft.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. Drk.
W. S. McGee No. 1 Pritchett, J. Hendricks Sur., 7 mi. W of Mabank. S.D.; 3,104 ft.
J. F. McLaughlin No. 1 Wood-Nash, J. C. Cortez Sur., ¾ mi. SE of Scurry. Drk.
Tyler & Smith No. 2 Phoenix Realty Co., A. Hicks Sur., 3½ mi. W of Mabank. T.D. 500 ft.; W.O.C.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. S.D. 30 ft.

Leon County

Lone Star Gasoline Co. No. 1 Steve Pate, D. J. Haskins Sur., 8 mi. SE of Buffalo gas area. S.I. 5,782 ft.
T. J. Tucker No. 1 Same Vane, James Webb Sur., 4½ mi. SE of Keechi. Drlg. 2,710 ft.
Wynne Drlg. Co. No. 1 H. L. Brown, Joseph Brown Sur., ¾ mi. NW of Keechi and on Sinclair Prairie farmout. Cg. 6,320 ft.

Limestone County

Strowd Gas Co. No. 1 S. Adkins, A. Varella Sur., 1 mi. W of Groesbeck. D.&A. 650 ft.

McLennan County

J. C. Kilgore No. 1 Tom Motis, R. D. Price Sur., 4 mi. E of town of West; shallow test. Loc.
Lisle Steele No. 1 C. H. Cherry, M. Martinez Sur., 4½ mi. SE of Waco. S.D. 1,300 ft.

Madison County

W. C. Holleman No. 1 D. C. Cannon, J. P. Phillips Sur., 7 mi. NW of Madisonville. W.O.C. 245 ft.

Navarro County

Silton & Ivey No. 2 Marshall. T. J. Chambers Sur. Comp.; 2 B.O.P.D.
Touhy & Darnes No. 1 G. H. Love, D. W. Collins Sur., 1½ mi. N of Corbett. D.&A. 975 ft.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. Loc.

Red River County

Bentley-Sheppard & Stevens No. 1 So. Pine Lbr. Co.; G. S. Parks sur.; 17 mi. N of Clarksville. S.D. 71 ft.
Daniels et al No. 1 J. J. Gaston, J. Guest Sur., 2 mi. S of Detroit. S.D. 1,109 ft.
Walters et al No. 1 Phamplin, W. Moore Sur., 3 mi. SE of Kanawha in NW part of county. Drlg. 775 ft.
C. E. Whitehead No. 1 R. H. Ringwald, A. Moore Sur., 1 mi. NW of Manchester. S.D. 630 ft.

Rusk County

Drake Drlg. Co. No. 1 R. L. Needham, J. H. Chambers Sur., 3 mi. S of Laneville. M.I.M.

Smith County

Combest et al No. 1 Dora Kendall; J. Williams Sur., 1¼ mi. SW of Jamestown. D.&A. 3,226 ft.
J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. R.U.

Trinity County

C. D. Davis No. 1 J. D. Gibson, A. Donavan Sur., 4 mi. NE of Trinity. R.U.
Leon Gay No. 1 J. B. Gibson, W. M. Beardsly Sur., 1 mi. S of Trinity. Loc.

Van Zandt County

W. S. King No. 1 Edna W. Watson, M. G. Whitaker Sur., 5 mi. S of Grand Saline. S.D. 2,600 ft.

NORTH TEXAS WILDCATS

Archer County

Helmerich & Payne et al No. 2 L. F. Wilson, Blk. 25, A.T.N.C.L. Sur. Drlg. deeper to 5,129 ft. and W.O.C.
Sinclair Prairie No. 1 J. A. Hood, Blk. 18, A.T.N.C.L. Sur. Drlg. 4,780 ft.

Baylor County

H. F. Wilcox No. 1 J. E. Fritz, D. Barlow Sur. A-10. Loc.

Clay County

Walter Gant No. 1 Bryant Edwards, S. C. Beldon Sur. A-12; 6,000-ft. test. 6⅝-in. 5,990 ft.; S.L. 5,994-6,016 ft.; T.D. 6,354 ft.; P.B. 6,069 ft. and shot csg.; treating; acd. 5,794-5,839 ft. through perfs.

Cooke County

Bin Indian Oil Co. No. 1 Alexander, T. Clevenger Sur., Abst. 1133. Drlg. 1,780 ft.
Sinclair Prairie Oil Co. No. 1 Mrs. J. D. Putnam, T. W. Ward Sur. No. A-1089. B.S.S.O. 4,970-83 ft.; tstg. show oil and S.W.; 9⅝-in. csg. 5,166 ft.; sd. 5,443-48 ft.; test S.W.; S.D. 6,055 ft.

Grayson County

O. L. McDougal No. 1 Jackson, H. Coffee Sur., Abst. 204; 4,000-ft. test. Spud. and S.D.

Mildred Oil Co. No. 1 L. C. Neatherly, Chas. Quillen Sur. S.S.O. 3,972-3,905 ft.; P.B. 3,897 ft.; perf. csg. with 69 shots; stg.; pmpg. on test; est. 10 B. P.H.; pmpd, 288 bbls. in 24 hrs.

Jack County

Benoit No. 1 J. S. Rhodes "C," B.B.B. &C. Sur. A-2199. Drlg. 4,545 ft.
Noah Daves No. 1 K. D. Baker, Sec. 2709, T.E.&L. Sur. 4,000-ft. test; S.D.O. 2,230 ft.
General American Oil Co. No. 1 Ben Gunter, S. Pritchard Sur. A-459; 3,200-ft. test. Fsg. 3,025 ft.

Knox County

Roeser Pendleton and I.T.I.O. No. 1 G. H. Beavers, Sec. 151, H.&T.C. Sur. U.R. 8¼-in. 3,620 ft.

Montague County

L. T. Burns No. 1 Maggie Mitchell, J. W. Massie Sur. A-463; 4,000-ft. test. Drlg. 3,410 ft.
H. H. Powell No. 1 Arch Durhan, W. J. Wagoner Sur. A-936. S.D.O. 1,800 ft.
Sinclair Prairie No. 1 Hill, Blk. 71, L. C.S.L. Sur. T.D. 1,558 ft.; C.O.

Wichita County

F. S. Freeland No. 1 J. D. Cooper, H. Hastie A-92; 4,000-ft. test. Loc.
Fresno Oil Co. No. 1-A L. F. Ramming A., H.T.&B. A-124. Drlg. 2,835 ft.
E. J. Stump No. 1 T. B. Michie, L. Netherly, A-240. Drlg. 4,000 ft.

Wilbarger County

Consolidated Oil Co. No. 1 Ancell, Sec. 35, H.&T.C. Sur. 10-in. 112 ft.; 6⅝-in. 4,070 ft.; est. 150 bbls.; tstg.
Phillips Pet. Co. No. 1 M. Servatius, Sec. 78, H.&T.C. Sur., Blk. 14. 6⅝-in. 2,634 ft.; B.O.S. 2,587-2,638 ft.; W.O.C.

Young County

Anzac Oil Corp. No. 1 E. S. Graham, A. Hines Sur. A-135. Drlg. plug; 5½-in. 4,598 ft.; O.S. 4,598-99 ft.
Horwitz & Oldom No. 1 C. J. Taach B, Sec. 248, T.E.&L. Sur. 6⅝-in. 4,113 ft.; C.O. 4,545 ft.
R. V. Tidewell No. 1 J. N. Ivey, F. L. Green Sur., Abst. 105. C.O. 1,830 ft.; U.R. 10-in.

Wise County

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Pits.

WEST CENTRAL TEXAS DISTRICT

Callahan County

Dobbs Oil Co. No. 1 Finley, sec. 75, Bayland Orphans Home Ld. U.R. 1,560 ft.
Johnson et al No. 1 B. E. Higgins, Sec. 39, D.&D. Sur., Abst. 886. Loc.

Coleman County

Hoffman & Page No. 1 T. A. Drake, J. H. Woods Sur. No. 46. Drlg. 2,200 ft.
Lynn & Jordan No. 1 Eades, J. West Sur., 7 mi. SW of Santa Anna. Tstg. 2,865 ft.
Bob Murray No. 1 Dibrell, H. Kigan Sur. near Camp Colorado. Acd. 2,360-65 ft.; no results.

Comanche County

Elmore No. 1 Moorman, Sec. 37, D.D.& A. Sur., 3 mi. NE of Sipes Spgs. M. I.M.
Loraine No. 1 Haile, Sec. 9, Blk. 3, H. &T.C. Sur. S.D. 2,750 ft.
Sells Pet. Co. No. 1 Smith, Sec. 12, Blk. 2, H.&T.C. Sur. S.D.; may shoot; est. 25 B.O.P.D.; tstg. 2,798 ft.

Eastland County

Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. S.D. 1,738 ft.
Hickok P. & D. Co. No. 1 Penn, Sec. 468, S.P. Sur. Rig.

Erath County

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. Fsg. 2,700 ft.

Fisher County

S. and D. Daube No. 1 Hardy, Sec. 49, Blk. 2, H.&T.C. Sur. S.D. 3,731 ft.
Forest Dev. Co. No. 1 Morrow, sec. 48, Blk. 2, H.&T.C. Sur. Jnk.&abd. 4,425 ft.
Owens-Snebold and A. C. Varner No. 1 J. H. Millsap; 3,500-ft. wildcat, 2 mi. NW McCaulley, 330 SL, 330 WL, Sec. 61-2, H.&T.C. Sur. D.&A. 3,590 ft.
T. G. Shaw Oil Corp. and Texas Co. No. 1 John Stribling, Sec. 110, Blk. 3, H.&T.C. Sur. D.&A. 1,446 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. U.R. 425 ft.

Haskell County

T. P. Coal & Oil Co. No. 1 Livengood, Pardue pool outpost. Drlg. 2,996 ft.; H. F.W.
Sawyer Drlg. Co. No. 1 A. J. Rowland Est., Sec. 5, Blk. 3, H.&T.C. Sur., 15 mi. E of Stamford. Spd. 195 ft.
W. A. Stiles et al No. 1 May Cook, Sec. 89, B.B.B.&C. Sur., 10 mi. W of Stamford; 6,000-ft. test. Drlg. 2,600 ft.

Jones County

Brown Eagle Oil Co. No. 1 Haynes, Sec. 191, Lemuel Andrews Sur. U.R. 1, 750 ft.
Dunigan Bros. and Fred Hyer No. 1 Gaither, 4½ mi. N of Anson, sec. 38, B.B.B.&C. Sur. D.&A. 4,831 ft.
R. B. Farris No. 1 Chas. Donohoo, 220 ft. from S and E lines, N½ Sec. 5, B.B.B. &C. Sur. S.D. 2,090 ft.
S. C. Herring No. 1 B. L. Ellis, 330 ft.

fr. N and E lines, SE¼ Sec. 8-1S, T.&P. Sur. Loc.

Humble O. & R. Co. No. 1 Huddleston, Sec. 49, Blk. 18, T.&P. Sur. Flwd. 20 B.O. 20 min.; T.S. 2,912 ft.; flwd. by heads.

King et al No. 1 Stover, D. H. Stover Sur. No. 7. D.&A. 2,040 ft.

C. B. Lynn No. 1 C. P. Poe, L. Katz Lee Sur. No. 335. P.B. 2,803 ft.

Rex Outlaw No. 1 M. A. Moore, Sec. 10. B.A.L. Sur. U.R. 2,002 ft.

Providence Royalty Co. No. 1 Phillips Est., Subd. 43, Lge. 334, Harrison C. S.L. Sur. Loc.

S. B. Roberts Co. No. 1 Roy E. Prichard, 205 ft. fr. S L, 2,428 fr. E L, J. E. Cockrell subd. 2, G. Martinez Sur. 195. Loc.

Sinclair Prairie No. 1 Williams, Sec. 40, Blk. 18, T.&P. Sur. Drlg. 2,575 ft.

Stiles et al No. 1 Cook, Sec. 89, B.B.B &C. Sur., western part of county Drlg. 2,000 ft.

Nolan County

Oyster, Harkrider et al No. 1 J. H. Withers, C SW¼ Sec. 65-21, T.&P. Sur. Wildcat to drill 4,000 ft. S.D. 4,505 ft.

Chas. E. Peddicord No. 1 Tipton, Sec 43, Blk. 19, T.&P. Sur. Drlg. 673 ft

Union Oil Co. No. 1 J. D. Pepper, Sec 51, Blk. 21, T.&P. Sur.; 5,000-ft. test 6 mi. SW of Sweetwater. Drlg. 700 ft.

Palo Pinto County

Goble-More Drlg. Co. No. 1 M. B. Costello, R. R. Williams Sur., Abst. 896 Drlg. 1,505 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T. &P. Sur., Abst 1958. S.D. 2,175 ft.

Glen Rose No. 1 H. D. Groves, SW¼ Sec. 350, T.&P. Sur. S.D. 605 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, Sec. 1563, T.E.&L. Sur. 4,500-ft. test. U.R. 3,188 ft.; O.&G. at 3,612-31 ft.; C.O. 3,636 ft.

Fox & Rudd No. 1 Shotwell, Sec. 59, B A.L. Sur. W.O.C. 1,542 ft., P.B. depth.

R. H. Gordon & Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, Sec. 38, L.A.L. Sur.; 4,500-ft. test. S.D.O. 3,620 ft.

J. G. Hammond No. 1 Coker, 1,620 ft. fr.

(Continued on Page 114)

Canadian Fields

(Continued from Page 98)

Border Fields

On the Bridge dome structure, Anglo Canadian Oil Co. No. 1 Milk River, LSD 10, Section 4-2-13w4, has finished fishing job and is deepening below 1,600 feet. In the Steveville area, Anaconda Oil Co. No. 1, LSD 15, Section 9-22-12w4, is standing in cavey formation at 2,100 feet, with 10-inch casing jammed at 1,920 feet.

Illinois Fields

(Continued from Page 72)

SE Section 20-20-8e, drilling at 322 feet.

In Piatt County, Max Pray No. 1 Baker, SW NE NE Section 17-18-6e, drilling at 2,500 feet with water in the hole.

In Menard County, Arthur Scroggins No. 1 fee, C SW SW Section 24-19n-5w, total depth 1,570 feet, plugged back to 1,555 feet and drilling ahead.

In St. Clair County, Badger Oil Co. No. 1 Reichert, 150 feet from north and 2,640 feet from east lines of NE quarter Section 3-1s-10w, was fishing at 100 feet.

In Wayne County, H. H. Weinert No. 1 Sprague, C N half NW SE Section 4-2s-7e, building rotary derrick; H. H. Weinert No. 1 Hamilton, C SE SE NW Section 32-3s-7e, location.

In Franklin County, Eason Oil Co. No. 1 Orient Mine, in Section 36-6s-2e, set 10-inch casing at 98 feet and was shut down at 704 feet; North American Engineering Co. of Peoria, Ill., No. 1 Thakton, SE cor. NE SW Section 33-8s-7e, drilling at 215 feet.

Christian County: Swords & McDougall No. 1 B. Warren, NW SE SE Section 23-11n-1e, underreaming 8-inch casing, total depth 1,075 feet.

Washington County: Morris and others No. 1 Henry Beguiln, SW SW NW Section 12-1s-1e, drilling 1,300 feet; Hull, Stoffer & Boughter No. 1 Williams, SE SW SE Section 7-2s-3w, McClosky top at 1,452 feet, shut down for orders at 1,475 feet.

Jefferson County: Doctor Moore No. 1 Moore, SE NE NW Section 16-3s-5e, drilling at 1,825 feet, in shale; Benedum-Trees, Inc., No. 1 Jefferson Oil & Gas Co., C NW NE Section 16-4s-2e, McClosky at 2,745-53 feet, set 5½-inch casing at 2,725 feet, St. Louis top 2,815 feet, drilling at 2,955 feet.

Randolph County: Cain and others No. 1 Smiley, SE SE NE Section 31-4s-5w, shut down at 1,002 feet; Arnes Drilling Co. No. 1 Nicholson, NW SE NW Section 12-5s-9w, Aux Vases at 230 feet, drilling at 345 feet; Badger Oil Co. No. 1 Schroeder, SE NW NW Section 27-6s-6w, drilling at 535 feet.

White County: Flaherty & Waynesburg No. 1 Choisser, NE NW NW Section 5-8s-7e, total depth 1,045 feet, underreaming 8-inch casing.

Edwards County: Leach Brothers No. 1 Lee, SW NE SE Section 11-1s-10e, drilling at 3,470 feet.

Completed Wells

One of the best wells of the week was Kingwood Oil Co. No. 1-A, in C N half Section 31-2n-2e, in the Salem area, in Marion County, which started at 1,011 bbls. of oil and 800,000 feet of gas from McClosky lime at 1,870-1,902 feet, total depth. Kingwood was one of the earliest independents to come into the field and has done its share of the wildcatting thus far completed in several counties.

The Texas Co., in the Salem field, completed No. 2 Dunning, in Section 31-2n-2e, good for 182 bbls. in a three-hour flowing test; Texas Co. No. 2 Stonecipher, in Section 32-2n-2e, flowed 313 bbls. in 24 hours; same company's No. 1 Farthing, in Section 32-2n-2e, was good for 447 bbls. through a quarter-inch choke in 24 hours. In the same field, Zephyr Oil Co. No. 1 Langford, in Section 33-2n-2e, flowed 300 bbls. in 12 hours. Magnolia Petroleum Co. No. 1 Shanafelt, in Section 32-2n-2e, flowed 750 bbls. the first 24 hours. James Broadus and others No. 1 McLaughlin, offsetting the Magnolia well above mentioned, was good for 618 bbls. in 24 hours. Texas Co. No. 2 Canull, in Section 31-2n-2e, flowed 890 bbls. the first 24 hours. Thompson Drilling Co. No. 1 W. D. Wright, NE SE NE Section 8-1n-1e, was dry and abandoned at 2,043 feet.

In the Centralia field, Bert Fields No. 5, on Block 86, M. & I. right of way, pumped 65 bbls. a day from Weller sand at 1,216-31 feet. His No. 6 M. & I. pumped 180 bbls. from Benoist at 1,348 feet. The wells are in Section 13-1n-1w, Clinton County. Jack Greer No. 1 Lever, in Block 3, Second Home Terrace Addition, started at 50 bbls. per day from Benoist sand topped at 1,358 feet.

The Centralia townsite drilling campaign, in Marion County, which lasted much longer than was thought possible two months ago, is good for another 30 or perhaps 60 days, but on a greatly reduced basis.

In the Bartelso field in Clinton County, Santa Fe Petroleum Corp. No. 5 Vandello, in Section 8-1n-3w, was completed as a 50-bbl. well.

Fayette Completions

In Fayette County, Whisenant and others No. 1 Rexwinkle, 970 feet from south and 525 feet from east lines NE quarter Section 20-6n-3e, was dry and abandoned at 1,799 feet. Rosenthal No. 1 Washburn, NE SE NW Section 30-6n-3e, pumped 188 bbls. at a total depth of 1,622 feet. Ray Brown No. 2 Hopper, NE SE SE Section 12-7n-2e, pumped 200 bbls. in 24 hours from Weller sand at 1,404 feet, total depth 1,518 feet, and his No. 3 Hopper, SE SE SE Section 12-7n-3e, was good for 180 bbls. from sand topped at 1,512 feet, total depth 1,550 feet. Hausman and others No. 1 Townsend, 175 feet from south and 330 feet from east lines SE SE SE Section 12-7n-2e, is a 38-bbl. pumper from Cypress sand at 1,522-24 feet. Ruwaldt and Turner No. 1 Turner, SE SW SW Section 12-7n-2e, was dry and abandoned at 1,800 feet. Kingwood Oil Co. No. 2 Smith, 555 feet from north and 330 feet from E lines NE quarter Section 13-7n-2e, had Stein sand at 1,526-64 feet, total depth 1,565 feet, and pumped 104 bbls. in 24 hours. Kingwood No. 3 Smith, NE NE NE Section 13-7n-2e, came in for 110 bbls. from Stein sand at 1,534-70 feet. C. F. Steale No. 2 Arnold, 192 feet from north and 701 feet from west lines of SW quarter Section 8-7n-3e, was good for 90 bbls. initially from Benoist sand at 1,509-28 feet. Iotex Corp. No. 3 Owens, SW NW SW Section 9-7n-3e, pumped 174 bbls. in 24 hours from Weller sand at 1,449-78 feet. Thayer Drilling Co. No. 4 Morrison, SW NE NE Section 19-7n-3e, started at 250 bbls. per day from Benoist sand at 1,592-1,602 feet. Carter Oil Co. No. 1 Harley Stead, NW SW SW Section 12-8n-3e, flowed 259 bbls. in 24 hours from Weller sand topped at 1,429 feet. W. C. McBride, Inc., No. 5 Stokes, NW NE NE Section 14-8n-3e, flowed 400 bbls. in 12 hours from sand at 1,500-25 feet, total depth 1,527 feet. Carter Oil Co. No. 6 Main, SE NE SE Section 15-8n-3e, had Bethel sand at 1,534-62 feet and flowed 296 bbls. in 18 hours. Carter Oil Co. No. 1 Hopper, C SE NE SW Section 27-8n-3e, a Bethel sand completion at 1,579½-88 feet, pumped 97 bbls. in 24 hours. Magnolia Petroleum Co. No. 3 Buzzard, C SE SW NE Section 29-8n-3e, Benoist sand at 1,436-65 feet, flowed 450 bbls. in 24 hours. Paul Doran No. 2 McCann, SE NE SW Section 31-8n-3e, found salt water in Bethel sand at 1,618-27 feet and shut down the operation. Carter Oil Co. No. 1 Deal, SE SW NE Section 33-8n-3e, pumped 133 bbls. the first 24 hours from Bethel sand at 1,571-97 feet.

Clinton Completions

Gulf Oil Corp. No. 3 Buehler, 390 feet from north and 990 feet from west lines of NW quarter Section 1-1n-1w, Clinton County, pumped 65 bbls. in 16 hours from Benoist sand at 1,353½-72 feet. Jack Greer No. 1 Lever, Lot 7, Block 2, Second Home Addition, pumped 50 bbls. in 24 hours from Benoist at 1,358-78 feet. Shell Petroleum Corp. No. 1 Francois, NE NW SW Section 12-1n-1w, Benoist sand at 1,364-74 feet, pumped 6 bbls. of oil and the same quantity of water in 24 hours. Bert Fields No. 6 M. & I. Railroad, Benoist sand at 1,348 feet, total depth 1,375 feet, pumped 180 bbls. in 24 hours. W. R. Nichols No. 1 Dennis, Lot 10, Block 7, Finney Heights, was good for 40 bbls. of oil and 35 bbls. of water from Benoist sand topped at 1,376 feet. Carroll & Nichols No. 1 Quick, Lot 13, Block 6, Finney Heights, was good for 56 bbls. of oil and 6 bbls. of water from Benoist at 1,372½-84 feet. Quisenberry No. 1 Burroughs, Lot 21, Block 8, Finney Heights, pumped 30 bbls. daily from pay at 1,370-88 feet. Newton & Ward No. 1 Trame, 200 feet from north and 510 feet from east lines SW quarter Section 8-1n-3w, Bartelso field, is a 40-bbl. well from Stein sand at 967-81 feet. Santa Fe Oil & Gas Co. No. 5 Vandello, NW cor. NE Section 8-1n-3w, was good for 60 bbls. from Stein sand at 960-87 feet. M. K. Oil Co. No. 1 Kessner, NE cor. NW NE Section 10-3n-2w, a wildcat, was dry and abandoned at 1,276 feet. Gulf Oil Corp. No. 1 Felton, SE SW NE Section 35-2n-1w, had Benoist at 1,357 feet, total depth 1,373½ feet, and pumped 187 bbls. of oil and 7 bbls. of water.

In Lawrence County, Kesl and others No. 1 Warner, NE cor. NE Section 23-4n-11w, was dry and abandoned at 1,780 feet.

Marion County

In the Centralia field, Marion County, Thompson Drilling Co. No. 1 Wright, NE SE NE Section 8-1n-1e, was dry and abandoned at 2,045 feet. Coleman No. 1 Hadley, Lot 1, Block 16, Crosby Addition, was dry and abandoned in lime at 1,586 feet. Frontier Oil Co. No. 1 Fairview School, NW NW NE SW Section 17-1n-2e, in the Salem area, was dry and abandoned at 1,941 feet. Carroll & Nichols No. 1 Young School, NE NW SE Section 20-2n-2e, flowed 618 bbls. in 24 hours from Benoist sand at 1,788 feet. Magnolia Petroleum Co.'s Shanafelt test, NW SE NE Section 32-2n-2e, flowed 750 bbls. a day from Bethel sand topped at 1,718 feet, total depth 1,761 feet.

In Pope County, C. C. Whitlock No. 1 Anthis, 530 feet from south and 1,120 feet from east lines of NE quarter Section 12-11s-5e, was dry and abandoned in Benoist sand at 1,551-71 feet.

In Richland County, Mammoth Producing & Refining Co. No. 1 Yount, C S half NE NE Section 29-3n-9e, swabbed 420 bbls. from McClosky lime at 3,017-25 feet, total depth 3,030 feet.

In Warren County, Catcherside and Fisher No. 1 Ross, NE quarter, Section 26-8n-1w, dry and abandoned at 877 feet.

In Washington County, Adventure Oil Co. No. 1 Kzychi, SE SE NW Section 30-3s-1w, was dry and abandoned in Benoist sand at 1,409-22 feet. Bitterman & Cunningham No. 1 Anton Bonk, SE NE SW Section 10-2s-2w, was dry and abandoned in McClosky lime topped at 1,580 feet, total depth 1,618 feet.

In Wayne County, Texas Co. No. 2 Koontz, SW NE SW Section 33-2n-7e, flowed 550 bbls. in 24 hours from Fredonia lime topped at 3,311 feet, total depth 3,371 feet.

In Brown County, Fell Oil Trust No. 1 Adolph, 500 feet from west and 1,020 feet from north lines NW SW Section 4-1s-2w, of fourth meridian, dry and abandoned at 577 feet.

In Crawford County, Kentucky Natural Gas Co. No. 1 Clapp, SE cor. SW SW Section 19-5n-10w, was dry and abandoned at 1,450 feet.

In Fayette County, Minerva Oil Co. No. 1 Vercruyse, NW SE SE Section 4-7n-3e, pumped 100 bbls. in 24 hours from Weller sand at 1,531 feet. W. C. McBride, Inc., No. 1 Logue, SW cor. NW Section 8-7n-3e, pumped 147 bbls. of oil in 16 hours from pay at 1,428-36 feet.

CENTRAL OHIO

LIMA, Ohio, Oct. 3.—Five oil wells, eight gas wells and four dry holes comprised the week's field results in the central and northern Ohio fields. A 50-bbl. oil well and a gasser good for 1,000,000 feet per day were the best of the crop.

In Athens County, Canaan Township, Speary Oil & Gas Co. No. 2 Bank of Athens, Section 12, was dry at 760 feet.

In Ashland County, Hanover Township, Ohio Fuel Gas Co. No. 1 J. W. Emery, Section 15, made 1,000,000 feet of gas from Clinton sand at 2,889-96 feet.

In Coshocton County, Clark Township, McCord and others No. 4 Jesse Lewis, Section 23, made 3 bbls. of oil the first day after a shot in Berea sand at 1,127

feet. In Mill Creek Township, Ohio Gas, Light & Coke Co. No. 4 Lloyd Holderbaum, Section 10, is a small Berea gas well at 938 feet.

In Licking County, Fallsbury Township, Rutledge & Mosholder No. 6 Thomas Moran, Section 13, made 50 bbls. of oil from the Clinton sand at 2,964-3,020 feet. In Mary Ann Township, William Stricker and others No. 1 E. H. Davis, Lot 7, fourth quarter, was dry in Berea sand at 603 feet. In Mary Ann Township, Rutlege & Mosholder No. 1 Mary E. Keaser, Lot 19, first quarter, is a small Berea gas well at 886 feet.

In Morgan County, Homer Township, D. T. Orndoff No. 3 A. A. Boileau, Section 2, is good for 100,000 feet of gas in the second Berea sand at 1,559 feet. In Marion Township, Crowley and others No. 2 C. W. Newton, Lot 24, had 100,000 feet of gas in the second Berea at 1,555 feet.

In Scioto County, Harrison Township, J. M. Howell No. 1 William Warner, Section 18, was dry in the shale at 805 feet.

In Summit County, Franklin Township, East Ohio Gas Co. No. 1 A. J. Wolf, Section 34, is good for 300,000 feet of gas from the Clinton sand at 3,998-4,011 feet.

In Washington County, Barlow Township, Devitt and others No. 24 Francis Fisher, Section 6, is a 1-bbl. pumper in the second Cow Run at 852 feet. In Independence Township, Herlon & Smith No. 3 O. W. Lynch, Section 28, is a small salt sand gas well at 1,076-82 feet. In Liberty Township, Koon Run Oil Co. No. 3 A. J. King, Section 22, produced 4 bbls. of oil the first day after shot from the Keener sand at 1,342-45 feet.

Lima Field

A small gas well and a dry hole made up the completions for northwestern Ohio. A new test has been started by the Travelers Oil Co. 1½ miles west of Fostoria on the Jacob McCauley tract, Hancock County, Washington Township, Section 2.

In Sandusky County, Jackson Township, Trent Oil & Gas Co. No. 2 F. H. Havens, Section 15, had a small showing of oil in the Trenton at 1,313-95 feet.

In Hancock County, Delaware Township, Bert Sheldon No. 1 William J. Moore, Section 27, is a small gas well in the Trenton rock at 1,268 feet.

In Putnam County, Blanchard Township, Oscar Byerly is fishing for casing in No. 3 D. A. Devore in Section 15.

EASTERN KENTUCKY

ASHLAND, Ky., Oct. 3.—Two gas wells and one oil well were completed in Eastern Kentucky in the past week.

Inland Gas Corp. No. 202, on the Elizabeth Adams land, on the Right Fork of Troublesome Creek in Knott County, reached a total depth of 3,078 feet in slate and has a daily production of 958,000 feet of gas.

Kentucky-West Virginia Gas Co. No. 574, John and Benjamin Sellards land, on Levisa Fork in Floyd County, at a total depth of 1,026 feet, in sand, was testing gas. The same company completed No. 5243, on C. W. Preece land, on Coldwater Fork in Martin County, at a total depth of 1,342 feet. It is an oil well but initial production figures were not yet reported.

Rocky Mountain Fields

(Continued from Page 77)

No. 29 TP, C SW NW Section 35-40n-79w, the Salt Creek test which was drilled to the granite at 5,420 feet in 1929 and was plugged back to the Tensleep and completed, and drill to the base of that formation and recomplete by the selective method. The plugged depth is 3,802 feet where it made 1,949 bbls. in 24 hours and was then shut in. It has never been put on regular production. Casing will be set through the Tensleep and perforated.

General Pet. Corp. No. 1 State, NW NE SE Sec. 16-35n-77w. Drlg. 4,560 ft.
Stanolind O. & G. Co. No. 8 T.P.-Midwest Oil, C NW SW Sec. 35-40n-79w. Cg. 3,955 ft.; top Tensleep 3,833 ft.

Niobrara County

The final location for the Adams Oil & Gas Co. No. 1 Baker, a semiwildcat on the south side of Lance Creek, is in the NW NE SW, half a mile southwest of the Minnelusa Oil Co. No. 1 H. & M.-3, and east of the Continental Oil Co. No. 1-B Dielman, also a drilling wildcat. The Felmont Oil Corp., of Houston, Tex., has an interest in the lease and other acreage in the vicinity.

H. D. Moore and others (W. A. Maupin) No. 1 Bergrem, NW Section 23-35n-63w, 18 miles southeast of Lance Creek on Old Woman Creek, had a hole full of water at 1,638 feet and is shut down for orders. It had the top of the red beds at 1,121 feet.

Ohio Oil Co. No. 6 Cash O.P.C.-2, NW NW NE Sec. 4-35n-65w. R.U.R.
MacKinnie Oil & Drlg. Co. No. 4 Thompson, SE SW NE Sec. 7-35n-65w. T.D. 450 ft.; cmtd. 13⅜-in. 424 ft.; W.O.C.
Continental Oil Co. No. 1-B Dielman, SW SE NE Sec. 7-35n-65w. Drlg. sh. 3,301 ft.
Continental Oil Co. No. 13 Tom Bell, SE NE SE Sec. 33-36n-65w. Drlg. sh. 1,550 ft.; 13⅜-in. cmtd. 408 ft.
Ohio Oil Co. No. 11 Lamb Acct. 2, SW SE SE Sec. 5-35n-65w. Drlg. 4,840 ft.; top r.b. 4,293 ft.
Fall River Royalty & Producers Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. Drlg. 345 ft.
Continental Oil Co. No. 7-B Schuricht, NW NW SE Sec. 6-35n-65w. Loc.
H. D. Moore et al No. 1 Bergrem, NW Sec. 23-35n-63w. S.D.O. 1,638 ft.; 1,400 ft. wtr.
Adams O. & G. Co. No. 1 Baker, NW NE SW Sec. 8-35n-65w. Cor. loc.

Park County

The Ohio Oil Co. No. 1 Trans-Ark, on Little Polecat, to the northwest of the Garland dome, an important test, topped the Tensleep at 6,765 feet and drilled to 6,929 feet and failed to encounter commercial production. It will be plugged back to the Frontier at 3,900-4,200 feet and recompleted as a gas well.

Stanolind O. & G. Co. No. 18 Elk-5, NW NE NW Sec. 30-58n-99w. Loc.
Ohio Oil Co. No. 1 Trans.-Ark., CSL SW SW Sec. 30-57n-98w. T.D. 6,929 ft.; will P.B. and recomp. in Frontier.
Resolute Oil Co. No. 2 State, C SW SW Sec. 16-57n-101w. Drlg. 7,810 ft.

Platte County

Bill Griffin et al No. 1, NE SE NE Sec. 18-30n-67w. Drlg. 300 ft.

Sublette County

Frontier Pet. Co. No. 1 Govt., SE SE SW Sec. 1-28-114w. Drlg. below 4,800 ft.
Texas Co. No. 3-G, NE NW SW Sec. 27-27n-113w. T.D. 911 ft.; C.O.

Sweetwater County

Selegna Oil Co. No. 1 Union Pacific, SW SW Sec. 11-20n-104w. T.D. 5,230 ft.; shot stk. D.P. at 4,195 ft.; will set whpstk. at 3,500 ft. and drill by.
Sinclair-Wyoming Oil Co. No. 79 Lost Soldier, SE NE NE Sec. 10-26n-90w. Top Sundance sd. 1,891 ft.; cmtd. 5½-in. welded csg. at 1,888 ft.; R.U.C.T.

Uinta County

Stove Creek Oil Co. No. 1 Govt., NE SW NE Sec. 26-14n-119w. Cmtd. 10-in. at 1,420 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW Sec. 26-14n-119w. S.D. 300 ft.

Washakie County

Paul Boether No. 1 Govt., SW NW Sec. 4-47n-90w. Drlg. 669 ft.

Weston County

Osage had one completion and three new operations. Sackett & Butcher No. 5, C NE NW Section 23-46n-64w, had 150 feet of oil over night from sand at 1,842-80 feet and will shoot. It is estimated at 8 bbls. per day.

Whedon et al No. 1, Sec. 21-46n-64w. Loc.; contr. let.
Taylor, Dodge & Pauley, C SW NW Sec. 17-46n-63w. M.I.M.; (first report).
Osage Trust Co. No. 36, CSL NE Sec. 18-46n-63w. Drlg. below 300 ft.; (first report).
F. R. Dilger, Tr., No. 16, SW SW NE Sec. 30-46n-63w. Drlg. below 700 ft.
Updike Bros. No. 1, NE SW NE Sec. 35-46n-64w. T.D. 2,027 ft.; fsg.
Hugh Updike No. 1, CEL NW SE Sec. 15-46n-64w. U.R. below 2,100 ft.
64w. Drlg. 2,220 ft.

MONTANA

Big Horn County

Buzetti & Corkins No. 1, NE NW Sec. 23-1s-32e. M.I.M.

Blaine County

R. E. O'Keefe No. 1 Tetter, CSL SW SE Sec. 10-31n-18e. Drlg. 450 ft.
Montana Gas Corp. No. 1 Duncan, C NW SE Sec. 6-32n-24e. Drlg. 1,160 ft.

Carbon County

R. C. Tarrant No. 2, SE NW Sec. 4-6s-18e. U.R. 8¼-in. to S.O.W. at 2,360 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW Sec. 35-9s-23e. S.D. 1,810 ft.
R. C. Tarrant No. 2 Heare, NW SE NW Sec. 14-6s-19e. S.D. 2,335 ft.; until spring.
Sha-Wha Pet. Co. No. 1 Govt., SW NW NE Sec. 35-9s-23e. S.D. 3,124 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 4-6s-23e. T.D. 2,337 ft. (C.D.); C.O. to res.; will U.R. to bttm. and set csg.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW Sec. 10-36n-50e. T.D. 1,884 ft.; recond. hole.

Glacier County

Cut Bank had one completion and two new operations.

Nadeau Brothers No. 5 Farmers State Bank, CEL SE NE Section 17-33n-5w, was completed at 2,938 feet and pumped 47 bbls. the first 14 hours and 86 bbls. the next 24 hours. It had the Sunburst at 2,830-67 feet with a show of oil at 2,830-33 feet and a show of oil and gas at 2,855 feet. The Cut Bank was at 2,895-2,930 feet. The 7-inch was cemented at 2,826 feet and 150 feet of 5½-inch liner was set at 2,895 feet.

M. R. Wagner No. 1 Tribal-173, CEL SE SE Sec. 12-32n-6w. Bldg rig; (first report).
C. P. Castle No. 4 State, CNL SW SW Sec. 36-35n-6w. M.I.M.; (first report).
Glacier Prod. Co. No. 1 State Unit, 800 ft. W of C Sec. 16-34n-5w. Drlg. 1,635 ft.
Texas Co. No. 1 Bonnett, NW SE SE Sec. 8-32n-5w. Drlg. 2,370 ft.
Glacier Prod. Co. No. 1 Math Unit, SW NE SW Sec. 36-35n-5w. Drlg. 1,740 ft.
Texas Co. No. 2 Govt., NE NW NE Sec. 17-32n-5w. Drlg. 2,615 ft.
Par Oil Co. No. 1 Tribal-170, SW NW SW Sec. 7-32n-5w. Drlg. 2,565 ft.
Lawler No. 3 Hoerr-Harlan, NE SW SW Sec. 5-33n-5w. Cmtd. 7-in. at 2,750 ft.; W.O.C.
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE Sec. 16-35n-6w. Loc.

Petroleum County

H. Clark Rowland No. 1 Brundige-Mink, SE NW Sec. 35-14n-25e. Skdg. rig from No. Kalispel.
Watson Oil Co. No. 1 Austed, SW NW SE Sec. 22-13n-28e. Cmtd. 12½-in. at 520 ft.
O. B. Canfield No. 2 Govt., SE NE NE Sec. 21-17-24e. Drlg. 779 ft.

Pondera County

Jones-Chambers No. 1 Erickson, SW SE SW Sec. 3-27n-4w. T.D. 1,932 ft.; making W.S.O. to D.D.

Richland County

W. M. Fulton No. 1 Richardson, SW SW SE Sec. 29-26n-52e. S.D. 500 ft.; val. hole.

Teton County

California Co. No. 1 Unit, NE SE SW Sec. 26-27n-6w. Drlg. Madison L. at 1,826 ft.
Gulf State Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW Sec. 5-27n-5w. T.D. 2,525 ft.; shot off 8⅝-in.; pulled and S.D.

Toole County

Kevin-Sunburst had five completions, two of which were better than the average and one a dry hole and one new operation.

J. W. Perron No. 2 Hugi, C SE NW Section 11-35n-3w, in the Rocky Ridge pool, which flowed for two hours when it struck the contact at 1,840 feet, also the total depth, is pumping 250 bbls. per day naturally.

A. Beardslee No. 9 Swears, CSL SW NW Section 9-35n-2w, was completed at 1,685 feet, corrected depth, is pumping 100 bbls. of oil and 10 bbls. of water per day without acidizing. It had the contact at 1,674-75 feet and plugged back to the Sunburst sand at 1,440-60 feet.

The Big West Oil Co. No. 3 Engle, CSL SW SW Section 1-35n-3w, is pumping 30 bbls. per day from the Sunburst at 1,598-1,625 feet, which also is the total depth.

The Lewistown-Flathead Oil Co. No. 1 Bashoe, SE cor. Section 9-35n-1w, a wildcat, was plugged and abandoned at 1,813 feet. It had 100 feet of water in the contact at 1,741-43 feet.

The Consolidated Gas Co. No. 1 Haukland, C SW NW Section 27-33n-2w, was completed at 1,520 feet for 2,000,000 feet of gas per day. The top of the Sunburst was at 1,480 feet and the pay at 1,510-20 feet.

The new operation is the Aspen Oil & Refining Co. No. 1 Government, which was a location a year ago under the name of O. E. Phelps.

Aspen O. & R. Co. No. 1 Govt., C NE SE Sec. 25-36n-3w. Drlg. 60 ft.
C. D. Stocks No. 3 Haggerty, SE NW SW Sec. 13-35n-2w. S.D. 1,580 ft. until spring.
W. M. Cassidy No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. Drlg. and cmtg. caves at 2,003 ft.
Fulton-Commonwealth No. 2 Thompson, NW NE SW Sec. 28-35n-3w. Cmtd. 12½-in. at 95 ft.; W.O.C.
H. C. Morton No. 8 Morton, C SW NW Sec. 24-34-2w. Drlg. 1,355 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE Sec. 26-35n-4w. S.D. 2,109 ft.

Yellowstone County

Wyomont Oil Co. No. 1 Boetcher-Sayre, C NE SW Sec. 26-3s-24e. T.D. 979 ft.; 900 ft. O.I.H.; est. 30 B.P.D.
Signal O. & G. Co. No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. Drlg. 4,597 ft.
Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. Drlg. below 1,795 ft.

NEBRASKA

Sioux County

The Union Oil Co. of California No. 1 Agate, NW SE SE Section 15-28n-55w, Agate district, was plugged and abandoned at 6,890 feet, total depth. At this depth the drill pipe parted and dropped 2,400 feet. It plugged back and cemented whipstock at 4,700 feet and drill pipe again was twisted off in new hole at 4,830 feet. No tops are available yet, but it is quite certain that it was through the Pennsylvanian section and had failed to find any favorable shows. It is 6 miles north of the Felmont well abandoned recently.

Dawes County

Huber Pet. No. 1 State, SW NE Sec. 16-33n-51w. Rotary rig.

PERSONAL

C. L. SUHR, chairman of the board of the Pennzoil Company, Oil City, Pa., and president of the National Petroleum Association, who has been in Weisbaden, Germany, planned to be in Amsterdam this week, according to word received by relatives. He expected to meet D. W. GRANT, vice president of Pennzoil, who is on a month's vacation in England, and the two will be back home next week.

W. L. CONNELLY, chairman of the board of directors of the Sinclair Prairie Oil Company, headed a group of officials on a tour of the Southwest Texas district. The party included HORACE FITZPATRICK, assistant to the chairman; RALPH STEINMAN, chief scout; H. S. CLARK, chief geologist, southern division, and BYRON MEREDITH, production superintendent, Texas division.

O. E. McCLATCHEY, purchasing agent of the Barnsdall Oil Company, Tulsa, and H. W. MANLEY, assistant chief engineer, are hunting big game in the region of Cody, Wyo. Word from them this week was to the effect that each had bagged an elk.

G. R. PERKINS, Wichita, Kans., independent oil operator, suffered critical injuries last week when he fell from an oil derrick. Physicians said both legs, his right arm and pelvis were fractured. Mr. Perkins, who is well known in show dog circles over the Southwest, is chairman of the bench show committee of the Wichita Kennel Club.

HARRIS PRUITT, former chief engineer of the Texas Pacific Coal & Oil Company, has opened an oil engineering firm in Fort Worth, Tex. The new firm, Harris Pruitt & Co., began operations last week. Mr. Pruitt is a graduate of Fort Worth's high schools, attended T. C. U. and graduated in chemical engineering from the University of Texas. The new firm will specialize in engineering inspections and shut-down plant evaluations.

THOR WARNER, San Antonio, Tex., whose work as a geologist and explorer has given him a place in Who's Who in America, has many achievements to his credit not mentioned in that publication. One was that of unearthing a prehistoric monster of the lizard type in Upshur County, Tex., while doing geological work for oil operators. The creature, which flourished when East Texas had a tropical climate, was 8 feet long. Mr. Warner's most recent geological success in Southwest Texas was making the location for the Lopeno field in Zapata County producing from the Mount Selman and the first production in Southwest Texas from that formation.

R. P. P. McGLASHAN, formerly assistant to the vice president in the production department of the Shell Petroleum Corporation, Tulsa, and later transferred to the marketing department in St. Louis, Mo., left last week for Los Angeles, Calif., accompanied by Mrs. McGlashan. From that point they will sail this week for New Zealand, where they will reside.

E. J. SADLER, vice president and production manager of the Standard Oil Company of New Jersey, and C. H. LIEB, former president of the Carter Oil Company, Standard subsidiary, went from New York to Mattoon, Ill., and there met a group of Carter officials last Friday for an annual inspection of the Illinois basin. They visited the Lake Centralia field and from there went to Dix to inspect Carter's holdings.

H. L. FARRAR, president of Coast Counties Gas & Electric Company, was elected president of the Pacific Gas Association for the ensuing year at the recent annual meeting, succeeding NORMAN R. McKEE, vice president of the Southern Counties Gas Company. A. E. HOLLOWAY, vice president of the San Diego Gas & Electric Company, with offices in San Diego, was elected vice president of the association. N. C. McGOWEN of New York, president of American Gas Association, attended the convention.

J. M. FLAHERTY, office manager of the Shell Petroleum Corporation in Tulsa, was reelected president of the Petroleum Accountants Society of Oklahoma at the annual meeting last Thursday. R. L. RUSH, Sinclair Prairie Oil Company, was reelected first vice president, and R. E. PARR, Phillips Petroleum Company, was named second vice president. M. H. MASSEY, Stanolind Oil & Gas Company, was renamed secretary and treasurer. Two new directors are A. W. JAHNS, Tide Water Associated Oil Company, and L. E. TUSTISON, Carter Oil Company.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Kenneth C. Dorn has been appointed chief accountant of the Pierce Oil Corporation. He was formerly with the Texas Company in Tulsa.

Charles B. Shaffer, wealthy Mid-Continent oil man, has purchased a home site on Sheridan Road near Glenlake Avenue, in Chicago, paying $30,000 for the lot, and will build a $50,000 residence on it.

Frank Drake, retired veteran Eastern producer, dies in Foster, Calif., at the age of 82. He was in the California gold rush in 1849, and in the Pennsylvania oil rush in the sixties.

20 YEARS AGO

Charles H. Lay, treasurer of the National Transit Company at Oil City, Pa., and a pipeliner of 41 years' standing, has retired. D. R. Mackenzie succeeds Mr. Lay, and J. H. Contino gets Mr. Mackenzie's job of assistant treasurer.

E. C. Bell, veteran oil historian, in a new story of the famous old Pithole field in Pennsylvania, writes that the average size lease in that field was of 1 acre, and that often three or four wells were drilled on the acre. The whole field included only 150 acres but hundreds of wells were drilled there.

Sun Oil Company has moved its Texas headquarters from Mineral Wells to a new building in Dallas, Tex.

10 YEARS AGO

Gypsy Oil Company gets a big gasser on the Eunice dome in Lea County, New Mexico, giving further favorable indications that there is oil to be found in that big desert county.

The T. W. Phillips Gas & Oil Company, one of the oldest firms in the country, gets a 40-barrel-per-hour well in the ancient Butler field in Pennsylvania.

A tremendous leasing campaign is on in central western Kansas on the Barton Arch.

Twenty representative petroleum stocks on the New York Stock Exchange average $67.55 per share.

R. J. ST. GERMAIN, independent geologist and oil operator, Houston, Tex., and Mrs. St. Germain, have returned home from a two months' vacation trip to Quebec and other points in Canada.

J. B. FISHER has been elected vice president of the Kendall Refining Company, Oil City, Pa., to fill the vacancy caused by the death of Howard H. Greene. Mr. Fisher will retain his post as secretary.

JAMES A. PELL, division manager of the Shell Oil Company's Oakland, Calif., marketing division, has been transferred to headquarters of Shell Union Oil Company in New York on a special assignment.

CURTIS HANKAMER, a graduate this summer with a master's degree from Northwestern University, has become associated in business with his father, EARL HANKAMER, independent oil operator, in Houston, Tex.

J. B. JENKINS, of the production engineering department of Stanolind Oil & Gas Company in Fort Worth, Tex., has been transferred to the company's Hobbs, N. M., office. He will be succeeded by J. O. FRY, from Wink.

E. V. HEWITT, acting general superintendent of production for the Pan American Production Company, Houston, Tex., has been appointed general superintendent to succeed C. A. RUSSELL, recently resigned. H. R. FUNK, field foreman of the Charenton field, St. Marys Parish, Louisiana, has been made assistant general superintendent to fill the place formerly held by Mr. Hewitt. O. H. EICHELBERGER, lately associated with W. T. Burton, independent oil operator, Sulphur, La., has been made field foreman at Charenton to succeed Mr. Funk.

PARAGRAPHS

W. F. BURT, New York, chairman of the Socony-Vacuum Oil Company, Inc., manufacturing committee, heads a group attending the annual meeting of the company's technical and key men in Los Angeles. The group includes H. F. ABRAMS, New York, in charge of foreign operations; J. B. RATHER, chief chemist of the New York laboratories; E. H. ATWOOD, Naples, in charge of refining operations in Italy; H. C. GOETZ, Hamburg, Germany, manager of refinery operations in Central Europe; J. W. NEWTON, Beaumont, Tex., vice president of Magnolia Petroleum Company, in charge of manufacturing operations; R. R. IRWIN, of the executive staff of the White Eagle division, Kansas City, Mo.; J. B. EDWARDS, Detroit, Mich., manager of White Star refineries; WILLIAM HILDEBRANDT, manager of the Wadhams Oil Company refinery in East Chicago, Ind.; G. S. DUNHAM, Philadelphia, chief engineer of Socony-Vacuum manufacturing committee, and A. E. ESSER, Brooklyn, chief engineer of the eastern marketing division. S. J. DICKEY, of the General Petroleum Corporation, Los Angeles, is acting as chairman of the general meetings.

DR. G. S. HUME, of the Geological Survey of Canada at Ottawa, has completed surveys of the north end of Turner Valley and is inspecting recent developments in the Wainwright, Ribstone and Lloydminster fields. Work on a formal report on North Turner Valley will be commenced as soon as Doctor Hume returns to Ottawa.

WILEY H. BUTLER, formerly head of the Standard Oil Company of New Jersey fuel oil sales department, and WARREN C. M. LESSING, formerly with the Shell Union Oil Company, were hosts September 29 in Newark, N. J., when their new organization, the Coastal Oil Company, officially opened its new storage terminal providing independent facilities to petroleum shippers. The terminal has a present storage capacity of 42,000,000 gallons.

PLEAS O. HARDWICK, vice president of the Atlas Pipe Line Corporation, Shreveport, La., is in the North Louisiana Sanitarium, Shreveport, suffering from a serious attack of malaria. His condition is reported to be somewhat improved.

W. H. BARBER, for seven years a zone supervisor for the Humble Oil & Refining Company's plant in Baytown, Tex., has been appointed assistant superintendent at Ingleside, Tex. He is succeeded at Baytown by L. P. SALTER, foreman of the machinists department, GEORGE P. CURTIN, of Ingleside, has been transferred to Baytown as supervisor of the machinists department, newly created. Mr. Barber went to Baytown in 1920 as laboratory assistant and in 1921 was named acting chief chemist. He was superintendent of the McCamey plant for a time.

E. H. FINCH, geologist of San Antonio, Tex., returned from England on the Queen Mary. He visited Africa and Portugal while overseas.

W. S. FARISH, president of the Standard Oil Company of New Jersey, returned to his New York office Monday of this week after a hunting trip in Canada.

W. ROSS LEARD, petroleum engineer for the Magnolia Petroleum Company, has been transferred from Dallas, Tex., to St. Elmo, Ill., where he is production foreman.

E. E. MOORE, geologist and petroleum engineer for the Arrow Drilling Company of Tulsa, has been transferred from Oklahoma City to Shreveport. Mr. Moore will cover Louisiana, Arkansas and East Texas.

HAROLD B. FELL, executive vice president of the Independent Petroleum Association of America, suffered a fracture of the right leg in a fall at his home in Ardmore, Okla., when he slipped on a freshly waxed floor.

WILLIAM P. HAND, of the Southern California Gas Company, has been appointed division manager of the San Bernardino division, succeeding H. C. McALLISTER, who retired after 29 years of uninterrupted service.

W. H. MORRISON, division production manager of the Shell Petroleum Corporation, with headquarters in Tulsa, has been assigned to make a special survey for the company. While he is so engaged, his duties will be in charge of C. R. BICKEL. Great Bend, district superintendent for western Kansas. W. M. GHOLSON, superintendent in the Greenwich-Wichita area, will relieve Mr. Bickel.

Boxcar Has Advantages

C. A. Russell, who recently resigned as general superintendent of the Pan American Production Company, Houston, Tex., to engage in the oil business for himself, was living in Westphalia, Kans., back in 1915 and wondering what he could do about it. He had been born in that town, passed his boyhood there, and now had exhausted its educational facilities. He had no money to squander on railroad tickets, and hitchhiking was not yet a recognized mode of travel. Oh, well, freight trains were running, and a boxcar has certain advantages anyway. So after a series of adventures young Russell arrived in Port Arthur, Tex., where he went to work as a laborer in the Texas Company's refinery. He quit a year or so later to take a railroad job. Then came the war, and he got into that. When discharged he returned to the Gulf Coast and he soon was working for the Texas Company in the West Columbia field. Jobs as roughneck and driller followed.

C. A. RUSSELL

The young man decided to go back to school, and 1925 saw him graduating from the University of Arizona with a degree in petroleum engineering and geology. Back to the Texas Company, this time as a geologist and petroleum engineer. In 1927 Mr. Russell joined the Cullinan interests, becoming vice president in charge of production for the Republic Production Company. Two and a half years ago he assumed the post with Pan American which he now has resigned.

C. E. COOK has been appointed superintendent of the Forest Oil Corporation, with headquarters in Bradford, Pa.

EARLE W. GARD, development engineer of the Union Oil Company of California, has been appointed director of research and development and will maintain offices at the company's headquarters in Los Angeles.

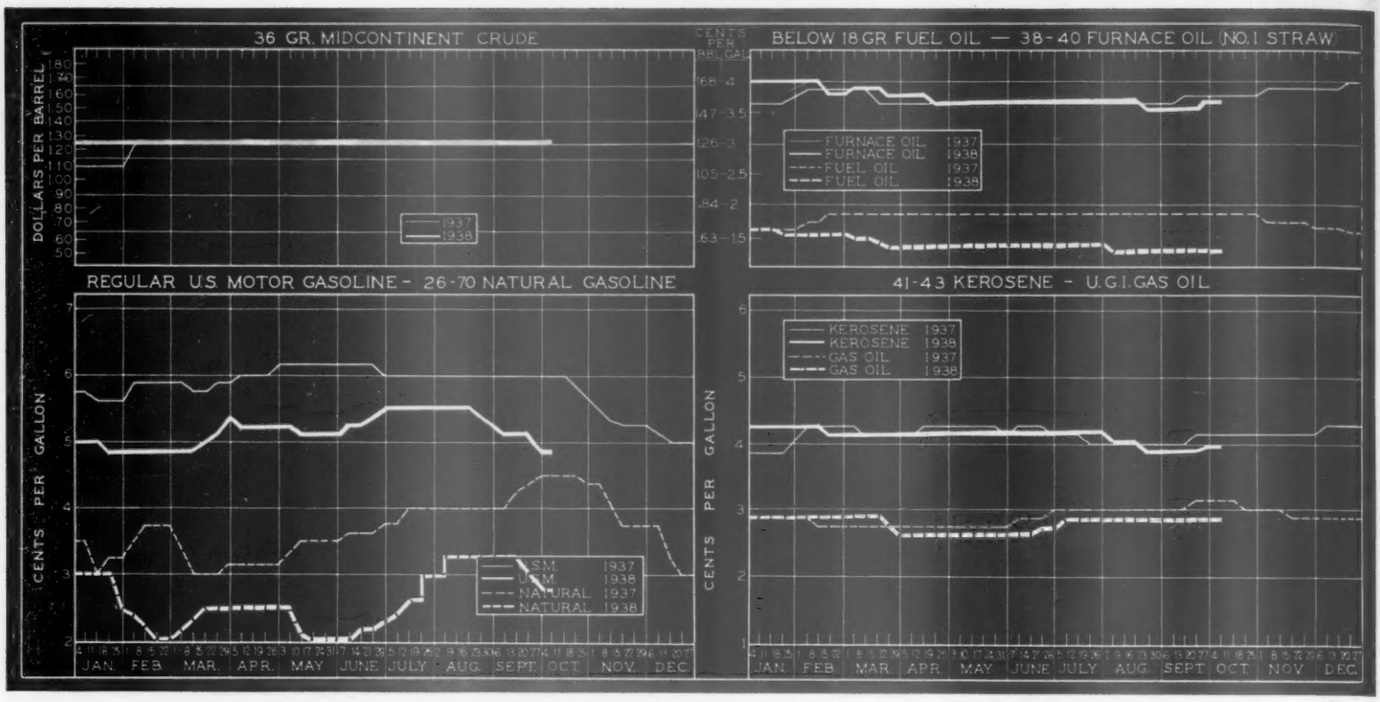
EARL E. NICHOLS, formerly scout in the Panhandle field of Northwest Texas for the Skelly Oil Company, is now located at Ardmore, Okla. He succeeds C. C. HUTCHENS, transferred to Mattoon, Ill.

A. S. BAILEY, vice president of the Texas Pipe Line Company, Houston, Tex., has returned home from a summer trip to Europe. He spent most of the time in Sweden, where he was present at the marriage of his son.

W. L. CHILDS, vice president of the Reed Roller Bit Company, Houston, Tex., and president of the Houston Chamber of Commerce, has been appointed a lieutenant colonel on the governor's staff.

R. S. GEDDES, founder and head of R. S. Geddes & Associates, industrial management consultant organization, has been elected president and director of the Warren Refining & Chemical Company, Cleveland, Ohio. He succeeded E. L. CANNON, who retired.

W. C. BEDNAR, formerly with the Phillips Petroleum Company and later with the Amerada Petroleum Corporation, has been employed as assistant professor of petroleum engineering at the University of Oklahoma, Norman. Mr. Bednar, a graduate of the institution, has had wide experience in drilling and production methods and practice.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Gasoline Still Floundering in Group 3 Market; Naturals Slightly Better

By T. F. SMILEY

Gasoline continued to flounder in the Group 3 market this week. Prices now are where they were last January, when they reached their lowest point in the season of light consumption. Some of the more discouraged sales managers thought the year's low might be broken before a bottom is found and a rise begins. For a few weeks in midsummer Group 3 prices this year were within a half cent of those prevailing in the corresponding period of 1937. At the present juncture they are more than a cent below those of last year.

Illinois Basin a Factor

Although opinion is not unanimous concerning the part played by the Illinois field in the dismal gasoline market, many see it as an important factor. They point out that refiners in the Centralia district are able to undersell the Oklahoma refiner at any point in Illinois reached by them. To the price which the Centralia refiner receives for his gasoline must be added the cost of transportation by truck. But this does not exceed 1 cent a gallon for each hundred miles, with lower charges for shorter hauls. Only low-octane motor fuel is coming out of the Centralia district, but it is readily seen that the refiner there can get 5¼ or even 5½ cents for his product and still make it worth while for the jobber to do business with him. For the Oklahoma product at 4 cents would cost him more after freight charges had been paid.

As the demand for low-octane gasoline as an automobile fuel is decreasing, and as the trade area of the Centralia refiner is necessarily restricted to the territory economically reached by truck, there is already a measure of competition among the refiners and a disposition to shave prices, a fact which does not improve the situation of the Group 3 refiner, who would like to sell in Illinois.

In this connection it is reported that refiners in the North Louisiana and Arkansas districts are feeling the effects of Illinois basin refining operations severely. Freight rates to the Chicago district make it virtually impossible for them to compete with the Centralia refiner. They are under a similar disadvantage in trying to compete with plants operating on or near the Gulf Coast. The outlet for North Louisiana and Arkansas apparently is coming to be restricted to local trade and the central South.

Refined Oil Market Barometer

Gasoline soft generally, with weakness especially acute in North Louisiana, Arkansas, and the Mid-Continent. Substantial export shipments help conditions on the Gulf. Slight pickup in naturals observable. Pennsylvania lubricants firm, with prices stiffening, but Mid-Continent material still being dumped. Prolonged warm weather halts rise of heating oils, but early upturn expected.

MID-CONTINENT. Gasoline weaker. Heating oils steady, but offerings adequate.

EAST COAST. Gasoline soft. Fuel oil demand increasing. Heavy industrial stagnant.

GULF COAST. Gasoline weak. Burning oils dull. General market lifeless.

CALIFORNIA. Gasoline soft. Fuel oil weak. Offshore market quiet and local inactive.

PENNSYLVANIA. Gasoline dull. Neutrals steady, 200-viscosity cylinder stock up a cent.

CHICAGO. Gasoline slack. Furnace oils firm. Heavy industrial oils slightly better.

Modest Improvement in Naturals

Signs of modest improvement were visible in natural gasoline. Manufacturers have been receiving some good-sized orders in the past week. Supplies at refineries are believed to have reached a low stage, and few express the expectation that prices will go lower. Although inventories are much too large, they are not pressing for outlets so hard as they were a few weeks ago, and there was a feeling that the worst was over for 1938.

It will be recalled that last February, and again in May, the 26-70 grade was obtainable at 2 cents. Many refiners took advantage of the bargain sales. Large manufacturers bought too, both because they wanted to steady a wavering market and because they were not blind to the opportunity to get something for next to nothing. These stocks of cheap natural have helped to clog the market in recent weeks. So have light ends which refiners acquired by condensing gases at their own plants.

Although reappearance of warm weather over wide regions slowed up demand for heating oils, this division was described as steady. Stocks are not overheavy, and a few cold days are likely to start a flow of orders. Some observers are not expecting prices to go much if any higher. They say that as soon as quotations on furnace oils touch a point that represents a little profit operations are stepped up so swiftly that they soon overtake requirements.

Lubricants gave little indication of improvement, and price-cutting was reported widespread. Wax was stronger, with quotations stiffening.

Gasoline Price Reduced at More Points on Atlantic Seaboard

By H. STANLEY NORMAN

NEW YORK, Oct. 4.—Lower tankcar and tank-wagon gasoline prices originating in New Jersey and the New England section were extended late last week to include practically the entire eastern seaboard. The motor fuel price reduction averaging a half cent per gallon to tankcar consumers and to dealers accepting delivery in tank-wagons extended inland as far as Ohio, Arkansas, Louisiana and Tennessee. Maryland, West Virginia, Virginia, North and South Carolina and many of the neighboring and adjoining states were included in the general decline of motor fuel prices.

As was the case in New Jersey and certain Pennsylvania districts, the price reductions were instituted by Standard Oil Co. of New Jersey or its affiliated and subsidiary companies. They were made due to lower primary markets, the company stated, following a policy of several months' standing to make public the reasons for fluctuations in its petroleum markets. Reductions in the southern states were made effective September 30 while the half-cent cut in New Jersey, excepting Trenton and Cumberland County, was made effective September 26, as previously reported.

"Due to reductions in primary gasoline markets," the company statement read, "the tank-wagon and consumer tankcar prices of regular and premium motor fuels will be reduced one-half cent per gallon in West Virginia, North Carolina and South Carolina by the Standard Oil Co. of New Jersey on Friday, September 30.

"The same reduction will be made by the Standard Oil Co. of Louisiana on the same day in Arkansas, Tennessee and Louisiana. Neither company posts retail prices.

"Spot tankcar prices at Wilmington, N. C., and Charleston, S. C., will also be reduced one-half cent. No third-grade gasoline prices will be affected."

The statement as to causes was repeated later covering a similar reduction in the tank-wagon and consumer tankcar prices in the District of Columbia and in Maryland, except on the eastern shore, where prices were unchanged. It was pointed out that divided dealers will pay a net price of 8.4 cents per gallon for regular gasoline at Atlantic City and Newark, N. J., while undivided dealers will pay a net price of 7.9 cents. These net prices represent a half-cent per gallon discount below the quoted tank-wagon dealer figure, a method adopted by several companies operating in that area. The minimum retail resale prices were dropped a half-cent per gallon by suppliers under the New Jersey fair trade act contracts.

Motor fuel business remained unseasonably low in New England and New York last week since most consuming centers in the former territory were still recuperating from the hurricane damage visited upon the North Atlantic Coast a week earlier. Communication facilities were still short of normal. Main highways in New England are mostly back in service, but rehabilitation of the side arteries will require several weeks more. The interruption of communication facilities and the fact that only the main highways are completely open to travel have seriously retarded automobile travel, and gasoline and lubricating oil consumption throughout the New England seacoast has suffered.

The improvement in fuel oil demand and a trend to stronger market levels continued last week, spurred on to some extent, at least, by a general lowering in average temperatures. Practically all of the Atlantic seacoast area north of Washington is now experiencing at least early morning and evening temperatures requiring heating. Deliveries against contracts and on spot orders have picked up considerably in practically all grades of burning oil.

Local gasoline market disturbances were spreading somewhat in the northeast according to reports from Boston, Philadelphia and at two points in New Jersey. To meet a local competitive situation in Camden and Gloucester counties, N. J., retail prices were reduced 1½ cents a gallon to 13.9 cents on regular grades as against 15.4 cents prevailing before. This reduction was made effective September 28.

An organized effort to conclude the retail price war in Philadelphia was reported gaining support at the close of last week and leaders expected that the general market would be moved about 2 cents early this week in the metropolitan area. The retail struggle has been under way in Philadelphia for about three or four weeks during which service station margins have dipped to as low as 1½ cents per gallon. The complaint was made by the spokesman for a dealers association that profit was practically impossible even with a margin of 4 cents. Through the price war in retail channels in Philadelphia, the tankcar gasoline market has held reasonably steady and is reported currently at 6½ cents per gallon, comparable to quotations in most directions at New York, Newark and in Boston.

Competition for business among retail distributors of domestic heating oil is spirited in some sections of metropolitan New York, but this condition is expected to improve materially with colder weather prevailing during the past few days. Observers feel that four or five days of cooler weather during which burner operation on a 24-hour basis is necessary would work a material change in fuel oil price conditions. The tankcar price for No. 2 fuel oil at most North Atlantic terminals is reasonably well established currently at 4¼ cents per gallon. Tank-wagon prices range from 6 to around 8 cents per gallon, depending on the point of delivery and the supplier.

Bunker C fuel oil prices remain unchanged in this territory with practically all suppliers quoting 95 cents per barrel to the marine trade for bunkering. Shore plant delivery of industrial fuels may be obtained for 85 to 95 cents per barrel in this territory. There has been only a slight amount of change apparent in the demand for industrial fuels in this territory so far, but several in the trade believe conditions may be altered within the next week or two when the war scare is definitely behind and normal industrial and shipping operations are resumed. Marine activity was particularly hard hit during the past two weeks during which it could not be determined from day to day whether a major war might develop in Europe.

The Gulf export market received a shot in the arm last week with the reported sale of 250,000 bbls. of 67-octane gasoline for shipment to France in three cargo lots during the next 60 days. The price involved in this sale was 4⅞ cents per gallon, considered normal for the grade. Inquiries were also in the market for other grades of gasoline and gas oil. One inquiry was reported for a reasonably small amount of aviation gasoline to be shipped in packages.

Western Pennsylvania refiners reported demand remained satisfactory for neutral oils and some

(Continued on Page 112)

A. P. I. Weekly Refinery Statistics

Week Ending October 1, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	515,000	18,328,000	15,988,000
Appalachian	85.9	102,000	2,920,000	914,000
Indiana, Illinois, and Kentucky	89.0	461,000	10,551,000	9,378,000
Oklahoma, Kansas, and Missouri	81.6	256,000	5,909,000	4,587,000
Inland Texas	50.3	104,000	1,606,000	2,005,000
Texas Gulf	88.9	758,000	9,812,000	14,251,000
Louisiana Gulf	97.3	109,000	2,240,000	3,224,000
North Louisiana and Arkansas	55.0	35,000	499,000	812,000
Rocky Mountains	54.2	50,000	1,111,000	835,000
California	90.0	508,000	12,086,000	96,475,000
Total reported	85.5	2,898,000	65,062,000	148,469,000
Estimated unreported	.....	337,000	3,540,000	3,290,000
*Estimated total	.....	3,235,000	68,602,000	151,759,000
*Estimated total previous week	.....	3,220,000	68,605,000	150,468,000
*Oct. 2, 1937	.....	3,400,000	65,266,000	117,076,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending September 24, 1938	280,278,000 barrels
Week ending September 17, 1938	280,945,000 barrels
Week ending September 25, 1937	307,974,000 barrels

Figures do not include stocks of heavy, refinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of October 4, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.6	13.6	4.0	10.5
Decatur	15.6	14.1	4.0	10.5
Joliet	15.6	14.1	4.0	10.5
Peoria	15.6	14.1	4.0	10.5
Quincy	15.4	12.9	4.0	10.3
Davenport, Ia.	15.6	14.1	4.0	‡10.5
Des Moines	15.4	13.9	4.0	‡10.3
Mason City	15.8	14.3	4.0	‡10.7
Duluth, Minn.	17.4	15.9	5.0	11.3
Mankato	17.0	15.5	5.0	10.9
Minneapolis	17.0	15.5	5.0	10.9
LaCrosse, Wis.	17.0	15.5	5.0	10.9
Green Bay	17.4	15.9	5.0	10.3
Milwaukee	16.8	15.3	5.0	10.7
Detroit, Mich.	14.3	12.8	4.0	9.0
Grand Rapids	14.8	13.5	4.0	9.7
Saginaw	16.3	14.8	4.0	9.3
Evansville, Ind.	17.1	15.6	5.0	†11.0
Indianapolis	17.3	15.8	5.0	†10.0
South Bend	17.6	16.1	5.0	†9.0
Fargo, N. Dak.	17.2	15.7	4.0	12.1
Minot	18.5	17.0	4.0	13.4
Huron, S. Dak.	17.5	16.0	5.0	11.4
Kans. City, Mo.*	14.9	13.4	4.0	7.5
St. Louis*	15.2	13.7	4.0	10.1
St. Joseph*	14.9	13.4	4.0	9.8
Wichita, Kans.	14.4	10.6	4.0	7.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective August 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8.5 cents; 150 gallons and over, 8 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex grade B, 1-799, gallons 5 cents; 800 gallons and over, 4 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank-wag. dlr.	Gasoline Tank-car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	12.9	10.9	4.0	8.0
Newark	12.9	10.9	4.0	8.0
Annapolis, Md.	14.35	12.85	5.0	9.5
Baltimore	13.75	12.25	5.0	9.0
Cumberland	16.15	13.65	5.0	10.0
Wash'g'n, D. C.	12.0	10.50	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	12.9
Charles'n, W. V.	16.55	14.05	6.0	12.6
Parkersburg	14.85	13.35	6.0	11.2
Wheeling	15.75	14.35	6.0	12.2
Charlotte, N. C.	18.15	15.65	7.0	12.1
Hickory	18.65	16.15	7.0	12.5
Mt. Airy	18.45	15.95	7.0	12.3
Raleigh	17.75	15.25	7.0	11.6
Salisbury	18.25	15.75	7.0	12.2
Charleston, S. C.	16.75	14.25	7.0	10.6
Columbia	17.75	15.25	7.0	11.6
Spartanburg	18.45	15.95	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be the equivalent to the dealer price less .5 cent per gallon.

While the above prices continue at Atlantic City and Newark, N. J., dealers will pay a net price of 8.4 cents per gallon for Essolene. Dealers having pumps marked only "Esso, Essolene and 'Standard White'" gasoline will pay 7.9 cents for Essolene. Price basis to all other undivided dealers above is Essolene dealer tank-wagon price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank-wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta, Ga.	19.0	16.0	7.0	12.0
Augusta	19.5	16.5	7.0	8.0
Macon	19.5	16.5	7.0	11.5
Savannah	18.0	15.0	7.0	10.0
Birm'ham, Ala.	21.5	18.5	8.0	12.0
Mobile	21.5	18.5	9.0	9.0
Montgomery	21.5	19.5	9.0	10.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	20.0	17.0	7.0	9.5
Jacks'ville, Fla.	18.0	15.0	8.0	8.0
Miami	20.5	17.5	8.0	9.0
Pensacola	21.0	18.0	9.0	10.0
Tampa	18.0	15.0	8.0	8.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	18.0	15.0	6.0	10.5
Louisville	18.0	15.0*	6.0	10.0
Paducah	18.0	15.0	6.0	10.0

*Includes 1-cent state tax.

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallons discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	13.0	5.0	13.0
Billings, Mont.	19.0	6.0	13.0
Butte	19.5	6.0	15.5
Helena	20.0	6.0	15.5
Great Falls	19.0	6.0	15.5
Salt Lake City, Utah	17.0	5.0	16.0
Twin Falls, Idaho	21.0	6.0	18.0
Boise	19.0	6.0	18.0
Albuquerque, N. M.	17.5	*6.5	12.0

*Includes city tax of .5 cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank-wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline T'wag. dealer	Gasoline T'car consr.	Gasoline Inc. tax	Kero. tank wag.
Albany	14.3	12.3	5.0	9.0
*Met. N. Y.:				
M'htt'n., Bronx	13.4	12.25	5.0	8.75
Staten Island	13.4	12.25	5.0	8.75
Q'ns. & Bklyn.	13.4	12.25	5.0	8.75
Buffalo	14.1	13.1	5.0	7.5
Rochester	15.0	13.2	5.0	8.5
Syracuse	14.5	12.9	5.0	9.0
Boston, Mass.	12.5	11.0	4.0	8.0
Portland, Me.	14.0	12.25	5.0	8.75
Manch'ter, N. H.	14.5	12.8	5.0	8.5
Burlington, Vt.	14.7	12.65	5.0	9.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax.	Kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank-wag. dlr.	Gasoline Tank-car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Philadel'hia, Pa.	13.75	12.25	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	....	5.0	10.5
Wilmington	12.5	....	5.0	9.75
Springf'ld, Mass.	13.5	....	4.0	8.0
Worcester	13.0	....	4.0	8.5
Hartford, Conn.	13.6	....	4.0	7.0
New Haven	13.5	....	4.0	7.0
Providence, R. I.	13.0	....	4.0	8.0

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank-wag. dlr.	Gasoline Tank-car con'r.	Gasoline Inc. tax	Kero. tank-wag.
N. Orleans, La.	19.25	16.75	*10.0	†13.5
Baton Rouge	17.25	14.75	8.0	‡10.5
Alexandria	17.25	14.75	8.0	‡12.5
Lafayette	17.50	15.00	8.0	‡12.5
Lake Charles	17.25	14.75	8.0	‡12.5
Shreveport	16.00	13.50	8.0	‡11.0
Knoxville, Tenn.	20.50	18.00	8.0	14.5
Memphis	18.50	16.00	8.0	12.5
Chattanooga	20.00	17.50	8.0	14.0
Nashville	19.50	17.00	8.0	12.0
Bristol	19.00	18.25	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	18.0	16.5	6.0	10.5
McCook	17.5	16.5	6.0	10.0
Norfolk	18.4	14.9	6.0	11.2
North Platte	18.4	15.4	6.0	11.0
Scottsbluff	19.5	13.9	6.0	12.3

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935

Oklahoma and Arkansas

CONTINENTAL OIL CO

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	13.5	5.0	7.0
Tulsa	12.0	5.0	6.0
Ft. Smith, Ark.	14.25	5.0	7.5
Little Rock	16.75	7.5	8.0
Texarkana	14.0	5.0	8.0

Texas

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax.	Kero. tank-wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	13.5	17.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6.0	17.0
Hamilton, Ont.	22.0	6.0	17.0
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Nebraska) September 27 reduced dealer gasoline 4.1 cents in Scottsbluff.

Standard Oil Co. (Indiana) September 28 reduced tank-wagon kerosene 1 cent in Kansas City.

Standard Oil Co. of New Jersey September 26 reduced tank-wagon and dealer gasoline .5 cent in New Jersey. September 30 made similar reduction in West Virginia, North Carolina, South Carolina, Washington, D. C., and Maryland.

Continental Oil Co. September 27 reduced tank-wagon kerosene 1 cent in Tulsa. September 29 reduced dealer gasoline 2½ cents in Boise. October 1 reduced dealer gasoline .5 cent in Fort Smith and Little Rock.

Standard Oil Co. of Louisiana September 26 advanced tank-wagon kerosene .5 cent in Nashville. September 30 reduced gasoline .5 cent, all methods of delivery.

New York Market

(Continued from Page 111)

suppliers asked from one-half to 1 cent per gallon more for this material than during the preceding week. Neutral of 25 pour test, 200 viscosity, was generally quoted at 16 cents.

Kerosene was slightly more active in most primary markets in the East.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of October 4, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.04	.04½
63-66 octane	.04¼	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.04⅞	.05⅛
60-62 400 grades:		
62 oct. and below	.04	.04½
63-66 octane	.04¼	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane (regular)	.04⅞	.05⅛
64-66 375	.04⅝	.04⅞
68-70 360	.04⅞	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04	.04½
63-66 octane	.04¼	.04½
67-69 octane	.04⅝	.04¾
70-72 octane (regular)	.04⅞	.05½
60-62 400	.04	.04½
64-66 375	.04⅝	.04⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04⅞	.05
67-69 octane	.05	.05¼
70-72 octane (regular)		.05½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
67-69 octane	.05⅛	.05¼

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04	.04¼
63-66 octane	.04¼	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane	.04⅞	.05⅛
60-62 400 grades:		
62 octane and below	.04	.04¼
63-66 octane	.04¼	.04½
67-69 octane	.04⅝	.04⅞
70-72 octane	.04⅞	.05⅛
64-66 375	.04⅝	.04⅞
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.05	.05¼
65 octane	.06½	.06¾
68-70 octane	.07	.07¼

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06¼	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Boston	.06¼	.06½
Baltimore	.06	.06¼
Charleston, S. C.	.06¾	.07
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06¾
Philadelphia	.06½	.06¾
Boston	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane		.04⅝
60-64.9		.04¾
65 octane and higher	.04⅞	.05⅛
68-70		.05¼

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¾	.04⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02¾
Grade 18-55		.03¼

NORTH TEXAS—

Grade 26-70		.02¾
Grade 18-55		.03¼

CALIFORNIA—

75-85 375-390	.06¼	.07

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅞	.04
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.04⅛	.04¼
46-48 gr., 210-230 l.b.p., 480 max., e.p.	.04½	.04¾

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04	.04½
42-44	.04¼	.04⅝

NORTH TEXAS—

41-43	.04	.04½

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04½	.04⅝

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04⅝

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05½
46	.05	.05¾
47	.05½	.05¾

CHICAGO (Based on Group 3)—

41-43	.04	.04¼
42-44	.04¼	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05	.06

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43		.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅞	.04
No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅝	.03½
No. 3 zero to 15, 28-32	.03¼	.03⅝
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¼	.03½

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-40	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅝
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pourpoint, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 5, low pourpoint, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.75	.80

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04	.04⅝

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.40
24 plus Diesel, per bbl.	1.05	.140
24 plus Diesel (bunkers)	1.25	1.55
12-16 (bunkers at tidewater)	.80	.90
10-16 (cargo lots)	.65	.85
12-17 (tankcars)	.55	.90
10-17 (high sulfur)	.50	.85
San Joaquin Valley:		
10-18 (tankcars)	.60	.80
24 plus Diesel, per bbl.	1.20	.150
San Francisco:		
24 plus Diesel, per bbl.	1.45	1.55
24 plus Diesel (bunkers)	1.50	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03½
43-47 Diesel		.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunkers (bulk cargoes)	.60	.65
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 Diesel (lighterage 6¼c per bbl.)		1.75
28-30 Diesel (tankcars)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):

10 pourpoint	.17	.17½
15 pourpoint	.16	.16½
20 pourpoint	.15	.15½
25 pourpoint	.14	.14½
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 pourpoint:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° color, 400-405 flash:		
Zero pourpoint	.17	.17½
10 pourpoint	.16	.16½
15 pourpoint	.15	.15½
25 pourpoint	.14	.14½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.19	.19½
10 pourpoint	.18	.18½
15 pourpoint	.17	.17½
25 pourpoint	.16	.16½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¼	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0245
124-126 (a.m.p.) w.c. scale	.0235	.0245

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0435
128-130 (a.m.p.) wax		.0445
130-132 (a.m.p.) wax		.0455
133-135 (a.m.p.) wax		.0500
135-137 (a.m.p.) wax		.0515
124-126 (a.m.p.) w.s.		.0185
124-126 (a.m.p.) y.s.		.0185
Petrolatum in barrels, carload lots:		
Dark green	.02	.02¼
Amber	.02¾	.02½
Extra amber	.02⅝	.02¾
Lily white	.05⅛	.05¼
Snow white	.06¼	.06½
Cream	.04½	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04⅝	.04¾
60-62 400	.04⅝	.04¾
61-63 390		.04⅝
64-66 375	.04⅝	.05

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.05
65-69 octane		.05¼
Above 69 octane		.05½

KEROSENE

GULF COAST—

41-43 prime white		.04
41-43 water white		.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stock:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0185	.0200
124-126 y.s.	.0185	.0200

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

(Effective January 28, 1937)

East Texas (Aug. 29, 30 and Sept. 1, 1938)*	$1.25
Van. Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*Price posted by all companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

North Louisiana and Arkansas

Smackover, all grades	$ .75
Schuler (Jones sand) (Sept. 17, 1938)	.85
Tullos and Urania	1.02
El Dorado East field	.90
Lisbon, La. (Sept. 19, 1938)	See note below

*Caddo Crude Oil Purchasing Co. Below 34°, 83 cents; 34°, 85 cents; 35° and above, 87 cents.

Gulf Coast

(Effective January 28, 1937)

Choctaw and Darrow, La. See note below.	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 28, 1937)	1.24

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light (July 8, 1938)*†	1.05
Grass Creek, Wyo., heavy (May 1, 1938)*	.50
Hamilton Dome, Wyo. (May 1, 1938)*	.45
Elk Basin, Wyo., light (July 8, 1938)*†	1.05
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (May 1, 1938)*	.65
Hogback, N. M. (Jan. 28, 1937)*	1.33
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†‡	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. M. (Jan. 2, 1937)‡	.90
Maljamar, N. M. (Jan. 28, 1937)‡	.90
Canon City and Florence, Colo.	1.10
Lance Creek, Wyo.*	.97
Lander, Wyo. (Jan. 1, 1938)§	.51¼
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Jan. 1, 1938)‡	.130
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. and Ohio Oil Co. †Ohio Oil Co. ‡Continental Oil Co., Texas Co. (April 1, 1938). §Hudson Oil Co.

Middle Western States

OHIO OIL CO.

(Effective January 28, 1937)

Lima	$1.00
Centralia, Ill. (Oct. 1, 1938)	1.15 to 1.25
Illinois (Sept. 27, 1938)	1.25
Princeton, Ind. (Sept. 27, 1938)	1.25
Midland, Mich. (Oct. 1, 1938)	1.02½
West Branch, Mich. (Oct. 1, 1938)	.84
Buckeye (Oct. 1, 1938)	1.00
Freeman-Redding (Mich)	1.00
Muskegon, Mich.	.00
Eastern Kentucky:	
Big Sandy River (Oct. 1, 1938)	1.22
Kentucky River (Oct. 1, 1938)	1.30
Western Kentucky (Sept. 27, 1938)	1.20

*Posted by Pure Oil Co. †McClanahan P. L. and Simrall. ‡Posted by Owensboro Oil Corp. (Standard of Ohio).

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal, and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.

(Effective September 1, 1938)

Bradford, Pa.	$1.68
Allegany, N. Y.	1.68

SOUTH PENN OIL CO.

(Effective September 1, 1938)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	$1.68
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.34
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.28
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.18
Corning Grade Oil in Buckeye Pipe Line Co. line (Sept. 3, 1938)	1.07

PENNZOIL CO.

(Effective September 1, 1938)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.61
Includes Cochran, Franklin, Hamilton and Doolittle district.	
Group B	1.60
Includes Tidioute district.	
Group C	1.59
Includes Turkey and Tidioute districts.	
Group D	1.58
Includes Bear Creek and Porkey districts.	
Group E	1.56
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

PURE OIL CO.

(Effective Sept. 1, 1938)

Cabin Creek, W. Va.	$1.28
Bradford Hollow, W. Va.	1.28
Kelly Creek, W. Va.	1.28

Southwest Texas

(Effective January 28, 1937)

Pettus	$1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Lytton Springs	1.12
Luling	1.00

Saxet and Taft take same gravity table as Gulf Coast.

West Texas

See gravity table.

Pecos County*	$ .91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.10
Oil Springs	2.17
TURNER VALLEY NAPHTHAS AND CRUDE OIL (January 5, 1938, by Imperial Oil, Ltd.)	
Clear naphtha and discolored naphtha, 65 gravity and higher	$2.14
Discolored naphtha and crude oil, 40-40.9 gravity	1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity	1.62

These prices f.o.b. producers field tankage.

*Imperial Oil, Ltd.

Crude Oil Price Changes

Caddo Crude Oil Purchasing Co. reduced its Lisbon, Louisiana, crude oil price 5 cents per barrel effective October 1, posting 83 cents for below 34 gravity, and a 2-cent differential up to 87 cents for 35 gravity and above. Concurrent with the price cut, Caddo increased its purchases from 5,000 to about 8,000 bbls. daily, running back allowable. September allowable was set at 6,000 bbls. and the company's October runs may average about 9,000 bbls.

Effective October 1 Simrall Corp. reduced posted prices in the Midland district in Michigan 9½ cents per barrel to a new price of $1.02½, and 9½ cents per barrel in Buckeye, Bentley, Edenville, Beaverton and Freeman pools to $1. West Branch and Arenac fields were cut 6 cents per barrel or to 84 cents. Buyers in southwestern Michigan cut Allegan and Van Buren fields to $1.05, a 7-cent cut.

Ashland Oil & Transportation Co., effective October 1, reduced Eastern Kentucky crude 10 cents per barrel. The new prices are Kentucky River crude $1.30; Big Sandy River crude $1.22.

Rocky Mountain Runs

Production estimates for week ended October 1::

	Barrels
WYOMING	
Salt Creek	16,110
Big Muddy	1,190
Byron	4,620
Elk basin	640
Garland	2,550
Grass Creek	2,070
LaBarge	830
Lance Creek	12,160
Lost Soldier	1,690
Medicine Bow	2,970
Oregon basin	4,740
Osage	780
Quealy dome	770
Rock River	1,650
Wertz	990
Miscellaneous	2,090
Total Wyoming	55,850
MONTANA	
Border	70
Cat Creek	610
Cut Bank	7,410
Dry Creek	560
Kevin-Sunburst	3,540
Pondera	590
Total Montana	12,780
COLORADO	
Florence	140
Fort Collins and Wellington	340
Iles dome	1,960
Moffat	330
Orchard	40
Rangely	80
Tow Creek	160
Price	530
Total Colorado	3,580
NEW MEXICO	
Cooper	4,920
Eaves	910
Eunice	25,670
Hardy	2,600
Hobbs	14,100
Jal	1,050
Langlie	4,560
Lynch	580
Lynn	870
Mattix	3,320
Monument	26,410
North Lynch	40
Penrose	5,680
Rhoades	160
Skelly	1,940
South Eunice	3,150
Vacuum	4,160
Artesia-Maljamar	4,530
Getty	300
Hogback	200
Rattlesnake	740
Table Mesa	100
Total New Mexico	105,990
Total Rocky Mountain region	178,200

Crude Prices by Gravities

	1 Oklahoma-Kansas	2 Oklahoma-Kansas	3 North and Central Texas	4 East Central Texas (Mexia district)	5 North Louisiana-Arkansas	6 Gray County, Texas	7 Hutchinson-Carson counties, Texas	8 Rodessa, Louisiana-Texas and Panola County, Texas	9 Conroe, Tomball, Raccoon Bend, (Deep) Satsuma	10 Gulf Coast	11 Gulf Coast	12 Lea County, N. Mex. West Texas except Pecos County	13 Mirando district, Texas	14 Marion County, Texas	15 Refugio, Greta, Saxet, Taft, Texas	16 Anahuac, Flour Bluff, Dickson, Turtle Bay	17 White Castle, Louisiana	18 Iowa, Louisiana	19 Cayuga, Texas
Bel. 18	....	....	....	....	....	....	....	....	....	$.95	....	....	....	....	....	....	....	....	$.90	....
18-18.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	....	$.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	.95	$.95	....	$.96	....	$1.01	....	....	.96	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	1.03	....	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	1.00	....	1.05	....	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	1.07	....	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	1.09	....	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	....	1.13	1.13	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	....	1.15	1.15	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	....	1.17	1.17	.96
Bel.29	$1.06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	1.19	....	....	1.19	1.19	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	1.21	$1.16	....	1.21	1.21	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	1.23	1.18	....	1.23	1.23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	1.25	1.20	....	1.25	1.25	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	1.27	1.22	....	1.27	1.27	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1.24	....	1.29	1.29	1.08
Bel. 35	....	....	....	....	....	0.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	1.31	1.26	....	1.29	1.29	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	1.33	1.28	....	1.29	1.29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	1.35	1.30	....	1.29	1.29	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	....	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	1.39	1.34	....	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	1.41	1.36	....	1.29	1.29	....

Texas Wildcats

(Continued from Page 106)

S line and 1,020 ft. fr. W lines, Sec. 159, B.B.B.&C. Sur. Drlg. 4,460 ft.

Neff et al No. 1 Clausell, E½ Sec. 587, T.E.L. Sur. Loc.

Stephens County

Lone Star No. 1 J. S. McKee, 660 ft. fr. N line, 660 ft. fr. W line, Sec. 41-7, T.&P. Sur. Rng. csg. 4,061 ft.

Taylor County

Charter O. & G. Co. and A. R. Forester No. 2 Frederickson, Guadalupe C.S.L. Sur., Sec. 120, 3 mi. N of View. Drlg. 1,895 ft.

T. M. Knoles No. 1 Bowles, Sec. 21, B A.L. Sur. W.O.C. 1,906 ft.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., Sec. 979, T.E.&L. Sur. Est. 100 bbls wtr with S.O.; S.D. 4,070 ft.; T.D.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Oct. 1 High	Week ending Oct. 1 Low	Week ending Oct. 1 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Com. sh. earn. 1937	Com. sh. earn. 1936	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
78	55	70¼	60	70¼	Amerada Corp.	788,675	N.P.	50cQ	7-30-38	$3.04	$2.52	$2.00	114⅞	51½	125½	75
27⅜	17¾	22½	20⅜	22⅜	Atlantic Refining	2,663,999	$25	25cQ	9-15-38	3.51	2.59	1.00	37	18	35⅛	26⅝
23⅜	12⅛	19⅞	15⅞	19⅞	Barber Asphalt Co.	390,223	$10	75c	12-16-37	1.91	1.14	1.00	43⅜	10⅛	38½	21
21⅜	10⅛	18	14⅛	18	Barnsdall Oil Co.	2,250,344	$5	25cQ	11-1-38	0.85	1.01	1.00	35¼	10	28¼	14⅛
10¾	7	9	7⅞	9	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	11-15-38	1.48	1.18	.90	17⅞	7	17¼	11½
35¾	21¼	30	25½	30	Continental Oil of Delaware	4,682,583	$5	25cQ	9-30-38	2.98	2.05	1.50	49	24	44⅞	28⅛
9¾	5	7⅝	6	7⅝	Houston Oil (new)	1,098,618	$25	....	10-17-30	0.94	—0.03	....	17⅝	4¾	13⅞	6⅜
22⅝	12¼	17⅜	14⅜	17⅜	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-38	2.86	2.57	1.50	35⅜	14	30⅞	17¼
17¾	10⅝	14	13¼	14	Mission Corporation	1,382,945	$10	$1	6-29-38	1.31	0.48	1.25	34	15	29⅞	16⅜
23	12½	16½	12⅝	16½	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	4.90	2.02	(‡)	41⅜	17⅜	75½	19⅞
14⅞	8⅞	10⅝	8⅞	10⅜	Ohio Oil Co.	6,563,377	N.P.	50c	12-15-37	1.30	0.70	1.00	22⅞	8	18	12⅛
15⅞	10¼	11⅝	10½	11⅝	Pacific Western Oil	1,000,000	N.P.	75c	12-15-37	1.39	1.58	.75	29¾	11¾	23½	11¾
9¼	7	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	1.18	0.52	1.00	17⅛	7	20⅝	12¼
44⅜	27¼	40⅜	34	40⅜	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-38	5.42	4.02	2.75	64	30⅛	52⅜	33⅛
25⅜	15	23½	19⅜	23¼	Plymouth Oil Co.	1,029,800	$5	35cQ	6-30-38	2.85	1.65	1.65	29⅞	13	27¾	11⅞
13½	8¼	10½	8½	10½	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	2.15	1.63	.25	24⅜	8¾	27⅞	16
8⅞	5	7½	6	7½	Richfield Oil Corp.	3,896,638	N.P.	25c	12-24-37	0.35	....	.25	6½	4⅛	..	..
27½	15½	21	17	20¾	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-38	1.97	2.00	1.00	54⅛	16	44	30½
18⅜	10	16	12½	16	Shell Union Oil	13,070,625	N.P.	35c	7-15-38	1.44	1.57	1.00	34¾	14⅞	28¼	14⅜
34¾	18½	24¾	20	24¾	Skelly Oil	1,003,949	$15	50c	6-25-38	6.07	4.42	1.50	60⅝	26½	47⅝	19½
16⅜	10⅜	14¼	12	14¼	Socony-Vacuum	31,151,071	$15	25c	9-15-38	1.82	1.38	.80	23¼	13	17½	12½
34⅞	25⅛	30⅜	28	30	Standard Oil of California	13,014,754	N.P.	35cQ†	9-15-38	3.17	1.79	2.00	50	27⅛	47⅝	35
35½	24⅜	29⅞	27	29⅞	Standard Oil (Indiana)	15,267,030	$25	25cQ	9-15-38	3.66	3.09	2.30	50	26½	48½	32¾
42	32½	..	..	..	Standard Oil of Kansas	112,837	$10	$5	12-20-37	6.93	1.91	5.00	43	30⅝	31	25
58⅜	39¾	53¾	47⅜	53¾	Standard Oil of New Jersey	26,224,767	$25	$1SA†	6-15-38	5.64	3.73	2.50	76	42	70⅜	51⅛
59	45	53	50½	53	Sun Oil	2,316,484	N.P.	25cQ	9-15-38	3.86	3.25	$1 & 8% stk.	77½	44½	91	70
4¼	1¾	3⅛	2½	3⅛	Superior Oil Corp.	1,388,079	$1	....	.....	0.32	0.14	....	7¾	1½	6¾	3
49⅝	32⅝	45	39	45	Texas Corp.	10,875,006	$25	50cQ	10-1-38	5.02	4.10	2.25	65⅛	34¾	55¼	28⅞
5¼	2⅝	4⅜	3½	4⅜	Texas Gulf Producing Co.	888,138	N.P.	10c	12-23-37	0.68	0.93	.10	9⅝	2	8⅞	4⅜
12½	7	10	8⅝	10	Texas Pacific Coal & Oil	888,237	$10	10c	9-1-38	1.11	0.72	.40	16⅝	5⅜	15¼	7½
15¾	10⅛	13½	11½	13⅛	Tide Water Associated	6,369,175	$10	25cQ	9-1-38	2.08	1.03	1.20	21⅝	13⅛	21⅜	14⅜
22½	17⅛	21⅝	19½	21½	Union Oil of California	4,666,270	$25	30cQ	8-10-38	2.58	1.40	1.40	28¼	17½	28½	20¾
23½	20	21	20	21	Union Tank Car Co.	1,200,000	N.P.	30cQ	9-1-38	1.70	1.76	1.60	31½	22	31⅝	22⅝
3½	1⅝	2¾	2¼	2¾	Wilcox Oil & Gas	506,522	$5	...	5-10-28	0.24	—0.06	....	6¼	1¾	5¼	2¾

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock.

New York Curb Exchange

1938 High	1938 Low	Week ending Oct. 1 High	Week ending Oct. 1 Low	Week ending Oct. 1 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Com. sh. earn. 1937	Com. sh. earn. 1936	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
11⅜	5	10	7⅜	10	American Republic Corp.	1,308,049	$10	10c	7-11-38	$0.27	$0.28	$0.40	10	6⅝	..	..
10¼	4⅞	6⅞	4⅞	6⅞	Bridgeport Machine Co.	260,000	N.P.	$1.25	12-30-37	1.90	1.26	2.00§	21⅜	7	21	13¼
39	26	25¼	25	25¼	Buckeye Pipe Line Co.	200,000	$50	25c	9-15-38	4.02	4.40	3.75	51½	36	50	39¾
113¾	97	113½	112	113½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-27-38	6.73	7.46	7.00	123	95½	124¾	105
11	5⅛	7⅜	5⅜	7⅜	Cities Service (new)	3,714,317	$10	....	6-1-32	1.02	0.13	....	5⅜	1½	7⅜	3
2⅜	⅞	1	⅞	1	Cosden Petroleum	462,551	$1	....	.....	0.19	....	....	5½	1½	4½	1½
27½	17½	22½	19¼	21½	Creole Petroleum	6,975,383	$5	50cSA†	6-10-38	1.61	1.23	1.00	38¾	20¼	39	19⅞
10¼	5½	8½	7⅝	8½	Darby Petroleum	351,390	$5	25cSA	1-15-39	1.36	1.26	.50	18⅝	6½	18⅛	9
3½	1¾	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	1.34	0.66	....	8⅝	2¼	6¾	1⅞
31	19½	19	19	19	Eureka Pipe Line	50,000	$50	50c	8-1-38	—0.12	—0.62	4.00	47½	24½	47½	38½
46⅞	33	41½	36	41	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-38	3.51	2.90	1.00	63½	33	59	36
72⅝	56	68¼	61¼	67½	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-38	5.22	3.80	2.00	87	54⅞	80	57
19½	14⅛	17	14⅛	17	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-38	0.98	0.95	1.25	24¼	14½	24½	19¾
9¾	6⅝	7	7	7	Indiana Pipe Line	300,000	$10	30c	5-14-38	1.03	1.00	.80	15	5⅞	9¾	5½
31¼	21	25½	21	25⅝	International Petroleum	14,324,088	N.P.	$1.25†‡	6-1-38	....	1.81	2.50	39½	23½	39⅝	32⅝
5	2¾	3⅜	2¾	3⅜	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	0.17	0.20	....	8¾	2⅜	5⅜	2⅜
25⅛	15⅝	23	19	23	Lion Oil Refining	434,820	N.P.	25cQ	10-10-38	2.17	1.43	1.50	34	12½	17⅜	7⅜
10¼	6⅝	9	8⅛	9	Lone Star Gas	5,553,747	N.P.	20c	8-20-38	1.14	1.02	.60	14¼	5¼	14¼	9⅜
9⅜	6½	7⅞	7	7¾	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	9-15-38	0.58	0.64	.50	15¼	6¾	15⅜	9⅞
9¼	6⅜	7⅞	7½	7⅞	Midwest Oil Co.	998,444	$10	50c	6-15-38	1.14	0.95	1.00	14⅝	6¼	..	..
5⅜	4½	5¼	4⅞	5⅛	Mountain Producers	1,593,584	$10	30cSA	6-15-38	0.76	0.62	.60	7⅞	4⅛	8⅜	5
14⅝	11½	12½	12	12½	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-38	0.96	1.19	1.00	19½	12	23	17⅜
9¼	6⅝	7	6⅝	7	National Transit	509,000	$12.50	35cSA	6-15-38	1.19	0.79	1.00	12½	7¼	15¾	9¼
2⅝	1½	1⅝	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-38	0.02	0.02	....	5	1⅛	6⅝	1⅝
4½	4	..	..	..	New York Transit	100,000	$5	15c	10-15-38	0.49	0.34	1.00	5⅜	3⅞	6¼	4¼
6	4	4¾	4¾	4¾	Northern Pipe Line	120,000	$10	20c	6-1-38	0.78	0.66	1.00	12¾	5¾	9¾	4⅞
7⅜	3½	5⅝	3½	5¼	Pantepec Oil	2,441,142	$1	....	.....	....	0.05	....	9⅝	2¾	10⅛	3¼
3½	1⅝	2	1¾	2	Root Petroleum Co.	336,045	$1	25c	2-1-37	—0.17	0.45	.25	13¾	2	19¼	4½
4	2½	3	2¾	3	Ryan Consolidated	296,931	N.P.	....	.....	0.46	....	....	6½	2¼	4¾	1⅞
5⅜	3⅜	3⅝	3⅝	3⅝	Southern Pipe Line	100,000	$10	15cSA	9-1-38	0.85	0.41	.45	7¼	3⅞	7⅞	3¼
39	28¾	32½	30	32½	South Penn Oil	1,000,000	$25	37½cQ	9-30-38	4.64	3.59	3.65	56	35	44	32½
22¼	19	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	10-1-38	0.95	0.97	2.00	42	20	60	44
18¾	15	17⅞	16¼	17⅝	Standard Oil of Kentucky	2,604,790	$10	25c	9-13-38	1.60	1.46	1.50	21⅛	14¾	23⅝	17⅛
8¾	6⅛	7¾	7⅛	7¾	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	—0.58	0.42	.25	13¾	8	14⅝	11
22¾	16¼	21	19	21	Standard Oil of Ohio	753,740	$25	25c	9-15-38	3.67	4.77	1.50	45	16	40	21¾
3¼	2⅛	2⅝	2¼	2⅝	Sunray Oil	2,006,176	$1	10c	12-24-37	0.42	0.26	.25	4⅞	2	5	2⅝
5	3½	4⅜	4¼	4¼	Texon Oil & Land	936,024	$2	15cQ	9-30-38	0.51	0.36	.45	7⅝	2	9¾	5⅜
7⅝	4¼	5⅜	4⅞	5⅜	Transwestern Oil Co.	750,000	$10	....	.....	0.48	0.06	....	13⅞	4⅝	..	..
5¼	2¾	3⅝	2¾	3½	United Gas Corp.	7,818,959	$1	...	.....	0.25	0.20	....	13⅜	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

Chemical-Cartridge Respirator Provides Improved Visibility

Willson Products, Inc., 290 Thorn Street, Reading, Pa., announces a new low-resistance chemical-cartridge respirator especially designed for paint-spraying, for use in light concentrations of or-

ganic vapors and acid gases, etc. This new respirator, available in either 190 or 100 cc. content, employs two inexpensive replaceable cartridges, which results in low breathing resistance. The use of extra-large cartridges afford an unusually large degree of protection.

The new form-fitting rubber facepiece conforms to the face, out of the way, and provides better visibility. Spectacles or goggles may be worn with comfort and the entire respirator is so compact that it may be worn underneath a welder's helmet. Three separate chemical fills are available, depending upon the use to which the respirator is to be put.

George Justice Takes New Post

George E. Justice has joined the cutting and fishing-tool division of Houston Oil Field Materials Co., Houston, Tex., in charge of sales and engineering. He will work out of the Houston headquarters office. Mr. Justice formerly was district manager for Hinderliter Tool Co., in Oklahoma and Texas, and for the past five years he has been located in Houston. He was with Hinderliter 13 years, and has been identified with the oil industry since 1915.

Here and There With Men Who Manufacture Equipment

H. John Eastman, president of the Eastman Oil Well Survey Co., has returned to the United States from his annual European trip. Mr. Eastman has an oil-well surveying and controlled directional drilling business in Rumania, with headquarters in Ploesti, in charge of J. E. Treacy.

The Continental Oil Co. of California has ordered two 300-horsepower Clark "Angle" compressors for its new repressuring plant in the Belridge field, California. Godfrey L. Cabot, Inc., Olean, N. Y., is adding to its Rochester line booster station another six-cylinder 600-horsepower Clark right-angle compressor.

Beaver Pipe Tools, Inc., Warren, Ohio, has appointed Avery Phillips district manager in the midwestern sales territory, with headquarters in Chicago. He succeeds W. S. Andrews, who resigned to join Pittsburgh Equitable Meter Co.

H. C. Smith Oil Tool Co., Compton, Calif., has opened a Mid-Continent division office in the Gulf States Building, Dallas, Tex. D. C. Walker is in charge, with jurisdiction over Texas, Louisiana, Arkansas, Oklahoma, Kansas, and New Mexico. The company manufactures rock-bits, drag-bits, hole-openers and core-barrels.

J. C. Conrad, president of the Line Scale Co., Oklahoma City, Okla., has returned from a trip to Illinois and Kentucky with P. Z. Conrad, recently appointed to service in Illinois-Kentucky area for Line Scale. Mr. Conrad was transferred from the West Texas area.

Murcell Has a Record of 1,000 Strings of Welded Casing

Indicating the extent to which Pacific Coast oil operators are adopting welded casing for all depths of drilling, U. C. Murcell, Inc., of Los Angeles, has welded and set over 1,000 strings of casing. The snappy yellow Murcell service trucks are manned by skilled, white-clad operators, trained for their particular jobs, and ready for call day or night.

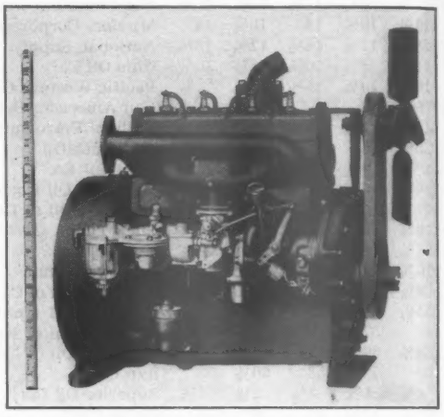
In a recent installation 6,125 feet of ⅜-inch, 61-pound slip-joint pipe was welded and placed in the hole in 18 hours, using three P&H-Hansen arc-welding generators. Strings of 100 to 2,000 feet of 22-inch casing are reported to have been set without difficulty. For a time 5,200 feet of 16-inch casing was a record, but it was supplanted by the recent placing of 6,400 feet of 13⅜-inch casing. In setting more than 1,000 strings, Murcell has handled all grades of C & D casing, both electric-welded and seamless, and has done a great deal of development work on flush-joint casing in which

it is said to have obtained 90 to 100 per cent joint efficiency.

The illustration shows eight of Murcell's fleet of service trucks on which are mounted the latest type P&H-Hansen gasoline-drive welding machines, together with a two-stage air-cooled compressor capable of delivering 7 cubic feet of air per minute at 200 pounds working pressure,

"Meteor Four" Has Wide Range of Use in Small Power Field

A four-cylinder engine for industrial use in the low-power range has been added to the Waukesha Motor Co.'s line. Developing 10-18 horsepower, this unit is especially valuable for use with light-weight vehicles, 5- to 10-kw. genera-



tors, contractors' and irrigation pumps, or as a starting motor for large engines or power units. Its field of service is widened by the fact that various cylinder-head combinations are available which permit operation on gasoline, natural gas, or butane.

A special design was developed for the Meteor Four so that it might incorporate accessibility as well as ruggedness without unnecessary bulk or weight. Crankcase and cylinder-blocks are separate castings, both of which have great rigidity. The cylinder-block is of molychrome iron, which makes it lighter than cast-iron cylinders as well as more durable. The crankshaft is drop-forged and heat-treated and mounted on two large ball bearings to reduce friction and prolong life. Connecting-rods, also drop-forged and heat-treated, are fitted with steel-backed, babbitt-lined precision bushings in the large end and precision bronze bushings in the floating piston-pin end.

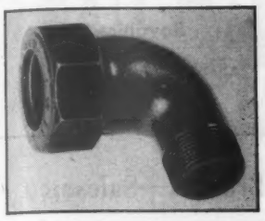
Oil is forced under pressure from a positive-drive valve-type pump through a header rifle-drilled in the crankcase to the three bronze bushings supporting the camshaft and to the auxiliary shafts and timing gears. A flat ground in the camshaft acts as a distributing valve and releases the oil under pressure to connecting-rod crankpin jets, which direct an intermittent oil stream into countersunk feed-holes drilled in the large end of each connecting-rod. Pistons, cylinders, valve tappets and main bearings are oiled by crankcase mist.

New Dowell Offices in Rockies

After four years of operation in the Rocky Mountain district, with headquarters in Shelby, Mont., Dowell, Inc., is opening two new offices, one in Casper, Wyo., and one in Calgary, Alberta. L. R. Austin will be in charge in Casper. Year-round service will be maintained from the Cody, Wyo., station. A secondary station in Douglas, Wyo., will service needs in eastern Wyoming and northern Colorado. W. B. Tennis will be in charge of the office in Calgary. This city was chosen because of its rapid growth into one of the oil centers of the world. Field operations will be continued from Okotoks.

Double Defense Against Leaks Given by Dresser Street Ell

A 90-degree street ell designed to give twofold assurance of permanently tight connections where the service joins the main is announced by S. R. Dresser Manufacturing Co., Bradford, Pa. According to the manufacturer this new fitting, known as the Super Service threaded-end 90-degree street ell, prevents leaks for two reasons: It eliminates threads on the service pipe, and it absorbs harmful movements of either service or main (from expansion, leverage, etc.).



Elimination of threads (and failures due to corrosion) comes through the use of the Dresser "pack," which takes plain-end pipe having full strength and thickness at the ends. Harmful pipe movements and leverage, declared by many gas men to be the cause of numerous failures in rigid joints, are absorbed by the Dresser resilient, wedge-shaped, rubber-compound gasket. Such leverage and stresses are often the result of frost; expansion; vibration; traffic; shifting, swelling, shrinking, or subsidence of soil; etc.

"In addition," says the manufacturer, "Super Service threaded-end 90-degree street ells make service work easier by doing away with threading, precise lining up of pipe, turning of long pipe lengths, exact pipe lengths, and work starting threads."

Raleigh Hortenstine President

Raleigh Hortenstine has been elected president of Wyatt Metal & Boiler Works, Houston, and Dallas, Tex., to succeed the late W. J. Wyatt, founder of the company. Since 1923 Mr. Hortenstine has been vice president and general manager of the company. Before joining Wyatt Metal & Boiler Works he was with Penn Bridge Co. as designing and construction engineer, in Pennsylvania, Washington, Louisiana, and Texas. For a time he served the Virginia Bridge & Iron Co. as contracting engineer in charge of work in the Southwest and as plant manager at Memphis, Tenn. He went to the Wyatt organization in an executive capacity in 1923.

Born in Washington, County, Virginia, Mr. Hortenstine was graduated from Virginia Polytechnic Institute with the degree of Bachelor of Science in civil engineering, and did a year's graduate work in the College of Civil Engineering at Cornell University. He is a member of the American Society of Civil Engineers.

Bulletins, Booklets and Other Literature for the Trade

The 100,000-bbl. Hortonspheroid for storing natural gasoline at the terminal of Hanlon-Buchanan, Inc., in Corpus Christi, Tex., is illustrated and described in the September number of the Water Tower, published by the Chicago Bridge & Iron Co., Chicago.

Rectox rectifiers, designed to counteract galvanic action and electrolysis by maintaining a small direct current from ground to structure, a technique known as "cathodic protection," are described in a four-page illustrated leaflet published by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

Arcos Corp., 401 North Broad Street, Philadelphia, Pa., has issued its illustrated technical bulletin No. 3, containing information on the physical and metallurgical characteristics of stainless and special alloy welding. The bulletin includes a complete alloy welding manual.

"Present-Day Line and Station Insulation" is the title of an interesting article in the September issue of the Allis-Chalmers Electrical Review, published by Allis-Chalmers, Milwaukee, Wis.

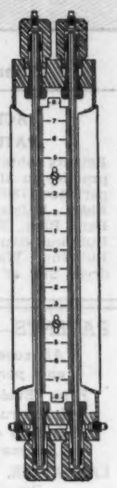
In an illustrated bulletin directed to industrial plants and general power users, Worthington Pump & Machinery Corp., Harrison, N. J., describes its latest Type BB line of vertical direct-injection Diesel engines.

Foxboro recording gauges are the subject of an eight-page bulletin offered by Foxboro Co., Foxboro, Mass.

Helby seamless tubing is described and pictured in a four-page bulletin obtainable from C. A. Roberts Co., 20 South Aberdeen Street, Chicago.

Daniel Develops Straight-Tube High-Pressure Manometer

A straight-tube, high-pressure manometer suitable for pressures up to 1,000 pounds is being introduced by the Daniel Orifice Fitting Co. of Los Angeles, Calif. The design of this new Wilcox manometer, patent No. 2,088,777, permits the use of straight tubes, which are sealed positively against leakage by synthetic rubber sleeves, thus eliminating strain or stresses in the glass. The construction does away with stuffing-boxes and provides a compensating seal under pressure.



Because there is no U-bend and only the lightest contact between glass and metal parts, there is no distortion of the tubes when the seal is made. Every part is easily accessible, impervious to gas, oil, gasoline, etc., and easily cleaned. If glass is accidentally broken, only one side need be replaced. Full details of the Wilcox manometer are available from the Daniel Orifice Fitting Co., Dept. 114-K, 3352 Union Pacific Avenue, Los Angeles, Calif.

BJ OIL TOOL AND PUMP DIVISIONS NOW IN NEW HOME

The oil tool and pump divisions of Byron Jackson Co. are in its new office building, manufacturing plant and warehouse in Houston, Tex. The complete line of BJ oil tools previously maintained in Fort Worth, Tex., are stocked in Houston. The plant is provided with equipment to manufacture certain items formerly made in Los Angeles, Calif., and with complete facilities for service and repairs of all BJ tools. A modern heat-treating plant in the Houston shops assures accurate control of heat-treating operations.

E. W. Upton *T. W. Jurling* *C. F. Vincent* *E. R. Crawford* *R. T. Todd*

T. W. Jurling is the Houston plant manager of the oil tool division, with E. R. Crawford shop superintendent. H. E. Grau, chief engineer and works manager, continues to supervise engineering and plant operating activities. C. F. Vincent continues as Mid-Continent manager for the oil tool division, in charge of sales in the Gulf Coast and Mid-Continent areas. R. T. Todd, for several years sales representative in the Gulf Coast, has his headquarters in the new Houston plant. Frank Champion, general sales manager for the oil tool division, retains supervision of sales

In addition to a staff of sales representatives, standard parts for Byron Jackson pumps are available and emergency service is provided. E. W. Upton, recently transferred to the Gulf Coast and Mid-Continent as district manager, is in charge of all pump division activities. The office and warehouse in Fort Worth have been discontinued.

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Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY

El Dorado, Union County, Arkansas, Magnolia, Columbia County, Arkansas. Fee, Lease and Mineral ownership on short notice. Ownership maps.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up. Owners—Address Attorney, Box 1122, Little Rock, Ark.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

FOR SALE—Blocks of 100 to 10,000 acres 5 to 10 year term oil and gas leases located on structures near oil and pas producing wells. Two structures are geologically approved. Depth of drilling 450 to 800 feet. W. P. Harley, Bowling Green, Kentucky.

ILLINOIS 60,000 acres in and near production. Illinois Minerals Company, Cairo, Illinois.

NEW OIL FIELD at Ojo, Huerfano County, Colo. opens with gusher at 420 feet, with 48 gravity oil and heavy wet gas. Deeper production seems assured. Our test wells drilling. We own 30,000 acres covering both Ojo and Alamo structures. Will sell leases or royalties, small or large blocks. Drilling development wanted, no proration, high grade oil, railroad and highway service into the fields. S. W. Pressey, Box 614, Pueblo, Colo.

BUY UNDER DRILLING WELL ON SABINE UPLIFT

Will sell small part of our leases in 10, 20, and 40 acre tracts to help meet expenses of drilling well which is now down 500 feet, on south flank of Sabine Uplift, Louisiana.

Also have limited number of producing royalties in Duval County, Texas.

JOSEPH E. POPKINS
Natl. Press Bldg., Washington, D. C.

SOUTHEAST NEW MEXICO
Subdividing 160 acres in tracts as small as 1¼ acres. Buyers share in oil, gas and minerals under entire 160. Prices wholesale and retail. Wholesale prices quoted only to established dealers. Other bargains in State Leases and Royalties. Write for map and literature.
HARRY S. WRIGHT
Box 347, Santa Fe, New Mexico.

N. MEX. Landowners Royalty, Lea County 1/32nd mineral deed, $50 full price T. P. Coal & Oil Co. 160 acre lease. Roy G. Barton, Hobbs, New Mexico.

YOAKUM CO. TEXAS OIL LEASE—Situated on geophysical high near production, for sale, consisting of south halves Sec. 596 and 597. Write best offer. Owner Dr. J. A. Robinson, 233—21 Place, Santa Monica, California.

Leases and Drilling Blocks

N E KANSAS shallow gas acreage. Lease furnished and well drilled bottom hole money. Box 435, Lawrence, Kansas.

MY AUG.-SEPT. offers of 80 a. gas-proven, one well, $850 are all taken. October offers are: 80 or more acres. I drill one well on each, equip for gas, assign lease (Full 7/8) and well for $950 your total cost. 300% year on your money possible. Pipeline market pays 8c per M.
MR. BUDDENBORG
Osawatomie, Kansas.

PARTY now conducting special geophysical exploration surveys for oil promise is often in contact with drilling block opportunities, leases, production, royalties and sometimes capital for development where favorable conditions exist. P. O. Box 364, Fort Worth, Texas.

WILL sell 55 ac. leases of Sec. 27 and 14, Twp. 3n, Claremont Twp. of Richland Co., Ill. Chosen drlg. site. G. Hedelin. Rockford, Illinois.

WILL purchase producing lease in eastern Kansas. No brokers. A. L. Harper, 430 East 17th St., Hutchinson, Kansas.

OWNERS, Brokers and buyers of bargains in Oil production, Leases, Royalties and Lands. I have many buyers and many bargains, and need many more for my clients. Am not a broker. See or write E. B. Reeves, Box 13, Alanreed, Gray Co., Texas.

FOR LEASE N½ NE¼ section 7-13-6E. Lincoln Co. Oklahoma. H. E. POWERS, R. 6, St. Joseph, Missouri.

OIL — FALLS COUNTY, TEXAS — OIL Shallow Rotary 2-pays Blk Ac. 4 test offset 3 wells, last 80 bbls. 1274 feet. Indicated Woodbine 2200 Gusher Gas Oil 3300 acres in escrow Contracted. Half Interest take $3.500 to finish ACT QUICK. J. R. Ferguson, Temple, Texas.

NEW MEX. LEASES; Lea, Eddy, Chaves, Roosevelt, other SE Counties, 40,000 ac. blocks or spreads. Legitimate inquiries invited. GEO. M. COWELL CO., 412 W. 6th St., Los Angeles, California.

OIL PRODUCTION FOR SALE

Owner of a number of good wells in the East Texas Oil Field would consider selling same part cash and balance on reasonable terms account have use for money in other business. Address
BOX J-580
The Oil and Gas Journal
Tulsa, Okla.

Leases and Drilling Blocks

BEST DEAL in Kansas. Geologist has 1000 acres checker-boarded on proven structure, offsetting drilling well, that offsets well with 38 feet pay in 1st break in Mississippi Lime. Price $1500. Particulars
BOX 10
KINCAID, KANSAS.

Situations Wanted

GRADUATE Engineer. 15 years' experience, oil and production and distribution natural gas, repressuring oil sands. 3 yrs. with state service commission regulating gas companies. Employed, desire change, prefer producing oil. Address Box J-553, The Oil and Gas Journal, Tulsa, Okla.

ENGINEER, 28, single, good health, 4 years' surveying experience, wishes position with oil company, preferably in South America, but will go anywhere. Address Box J-570, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

WANTED
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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma